Mood alternation in argument clauses: On the interrelation between commitments and verbal mood in Romance

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TESI DOCTORAL UPF / 2025

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Meinen Eltern

Acknowledgments

Writing this thesis has been both a solitary and a collective journey, and while solitude often takes the larger share, I am profoundly indebted to those who have accompanied me along great stretches of the way. The greatest credit for this work belongs to my supervisors, Laia Mayol and Josep Quer. As this journey draws to a close, I can only emphasize how fortunate I have been to have supervisors who offered me the academic freedom and support every PhD student could hope for. I am deeply grateful for their time, their immeasurable patience, their genuine interest in my research from the very beginning, and for always believing in my work. Without them, this thesis would never have seen the light of day. Moltíssimes gràcies, Laia i Josep!

My gratitude also goes to Ingo Feldhausen, whom I have known for so long that I almost forget that it has already been about a decade since I met him at Goethe University Frankfurt, when he was still my teacher. If it weren't for his offer to collaborate with me back then, when I was still an undergraduate, I might well have taken a very different path in academia – or none at all. It means a great deal to me that Ingo has become not only a mentor but also a valued friend, whose support has carried me through the long and winding path of this PhD. Vielen herzlichen Dank für alles, Ingo!

I would like to thank Bart Geurts who sparked my interest in the notion of commitment and has always welcomed my ideas and thoughts with candid curiosity and open arms. Thanks also go to Kai von Fintel for hosting me at MIT and encouraging me to worry less about perfection and focus more on drafting papers and pushing forward. Kai's simple words, 'once a student, always a student', still resonate with me; they not only gave me a sense of belonging in the MIT research community but, more importantly, made me feel truly welcomed in a place that was so far from home at the time. I would also like to thank Manfred Krifka, who not only showed

genuine interest in my ideas but also devoted far more time to discussing them than I could ever have expected. I was truly amazed and grateful for the generosity with which he engaged in our conversations, which at times stretched to several hours, expanding my horizons and leaving me with new challenges to tackle. I am also grateful to those who, on various occasions, devoted their time to discussing ideas that shaped this thesis. These include, among others: Josep Ausensi, Elena Castroviejo Miró, Francesco Costantini, Manuel García-Carpintero, Tobias Gretenkort, Julie Goncharov, Anna Kocher, Alexey Koshevoy, Daniel Lassiter, Mora Maldonado, Neri Marsili, Isabel Oltra-Massuet, Louise McNally, Jon Ander Mendia, Raquel Montero, Maribel Romero, Elena Spaziani, Xavier Villalba, Thomas Weskott, Martina Wiltschko, and Hedde Zeijlstra. This list is, by no means, exhaustive.

I extend my heartfelt thanks to my colleagues at the Departament de Traducció i Ciències del Llenguatge (DTCL), especially Sara Amido, Josep Ausensi, Roberto Dessì, Francesca Franzon, Eleonora Gualdoni, Zi Huang, Xixian Liao, Matéo Mahaut, Mora Maldonado, Guillermo Montaña, Alexandra Navarrete, Emanuela Pinna, Nicolás Rivera, Dominika Slušná, Ionuț Teodor Sorodoc, Peter Roger Sutton, Aikaterini Thomopoulou, Evripidis Tsiakmakis, Raquel Veiga, and Lucas Weber. Whether it was helping me settle in, discussing linguistics at length, publishing papers together, sharing coffee or lunch, going out, taking trips, or some combination of these, you all contributed greatly to making my time in Barcelona a truly positive experience. Thank you!

Barcelona, September 2025

Abstract

English

This thesis investigates verbal mood alternation between the indicative and the subjunctive in Romance languages, with a particular focus on Catalan and Spanish. Mood alternation refers to syntactic environments in which the sole alternating variable is verbal mood, yielding interpretive differences. While this phenomenon spans a wide range of grammatical contexts — including argument, root, and relative clauses — this work narrows its focus to argument clauses under non-factive verbs (e.g., 'say', 'believe' under negation) and response-stance verbs (e.g. 'deny', 'admit').

This thesis advances a novel perspective, interpreting the indicative mood not as a marker of cognitive attitude but rather as a signal of normative commitment, with the subjunctive indicating its absence — thus challenging the dominance of cognitive approaches to verbal mood. This reconceptualization is formally modeled through the Commitment Space framework, marking the first application of this model to the grammatical phenomenon of verbal mood in Romance languages. The discussion and application of a commitment-based account sheds new light on how mood alternation shapes the informational flow of discourse in particular, and contributes to ongoing debates about the meaning and function of verbal mood in Romance languages more broadly.

Català

Aquesta tesi investiga l'alternança del mode verbal entre l'indicatiu i subjuntiu en les llengües romàniques, amb un enfocament particular en el català i l'espanyol. L'alternança del mode fa referència a entorns sintàctics en què l'única variable que canvia és el mode verbal, la qual cosa dona lloc a diferències interpretatives. Tot i que aquest fenomen abasta una àmplia gamma de contextos gramaticals, incloent-hi oracions subordinades, principals i relatives, aquest treball acota la seva anàlisi a les oracions subordinades sota verbs no factius (p. ex., 'dir', 'creure' sota negació) i verbs de resposta/reacció (*response stance verbs*, p. ex., 'negar', 'admetre').

La tesi defensa una perspectiva innovadora que interpreta el mode indicatiu no com un marcador d'actitud cognitiva, sinó com un senyal de compromís normatiu, mentre que el subjuntiu n'indica l'absència. Així es qüestiona la preeminència dels enfocaments cognitius sobre el mode verbal. Aquesta reconceptualització es modela formalment mitjançant el marc teòric del *Commitment Space*, i és la primera aplicació d'aquest model al fenomen gramatical del mode verbal en les llengües romàniques. La discussió i aplicació d'un enfocament basat en el compromís com a concepte normatiu aporta una nova llum sobre com l'alternança modal estructura el flux informatiu en el discurs, i contribueix, més generalment, als debats oberts sobre el significat i la funció del mode verbal en les llengües romàniques.

Español

Esta tesis investiga la alternancia del modo verbal entre el indicativo y subjuntivo en las lenguas románicas, con un enfoque particular en el catalán y el español. La alternancia modal se refiere a contextos sintácticos en los que la única variable que varía es el modo verbal, lo que da lugar a diferencias interpretativas. Aunque este fenómeno abarca una amplia gama de contextos gramaticales, incluyendo oraciones subordinadas, principales y relativas, este trabajo limita su análisis a las oraciones subordinadas bajo verbos no factivos (p. ej., 'decir', 'creer' bajo negación) y verbos de respuesta/reacción (*response stance verbs*, p. ej., 'negar', 'admitir').

La tesis defiende una perspectiva innovadora, interpretando el modo indicativo no como un marcador de actitud cognitiva, sino como una señal de compromiso normativo, mientras que el subjuntivo indica su ausencia. Así se cuestiona la preeminencia de los enfoques cognitivos sobre el modo verbal. Esta reconceptualización se modela formalmente mediante el marco teórico del Commitment Space, siendo la primera aplicación de este modelo al fenómeno gramatical del modo verbal en las lenguas románicas en un contexto normativo. La discusión y aplicación de un enfoque basado en el compromiso aporta una nueva luz sobre cómo la alternancia modal estructura el flujo informativo en el discurso, y contribuye, más generalmente, a los debates abiertos sobre el significado y la función del modo verbal en las lenguas románicas.

Abbreviations used

&P	Coordination Phrase
CC	Clausal Complement
CP	Complementizer Phrase
ComP	Commitment Phrase
CS	Commitment Space
CSt	Commitment State
CG	Common Ground
DP	Determiner Phrase
RSV	Reponse stance verb
VP	Verb Phrase

Symbols, typographic conventions

$\vdash$	Commitment Operator
c	Commitment State
C	Commitment Space
$\vee$	Disjunction
$\dashv$	Doubt Operator
;	Dynamic Update
$\in, \notin$	Element of, not Element of
$\exists$	Existential Quantification
$\sim$	(Illocutionary) Denegation
$\Rightarrow$	Logical Consequence
ϕ, ψ, χ	Proposition
$\neg$	(Propositional) Negation
$\cdot$	Update Operator
$\sqrt{C}$	Root (of a Commitment Space C)
S	Speaker
$\subset$	(Proper) Subset of
$\subseteq$	Subset of
$\forall$	Universal Quantification
i	World-Time Index

Glossing conventions

1P, 2P, 3P	Person
ACC	Accusative
ART	Article
DAT	Dative
F	Feminine
GER	Gerund
IMP	Imperative
IMPF	Imperfect
IND	Indicative
INDF	Indefinite
INF	Infinitive
INJ	Interjection
M	Masculine
NEG	Negation
NOM	Nominative
NEUT	Neuter
PL	Plural
PPRT	Past Participle
PRF	Perfect
PST	Past
REFL	Reflexive
REL	Relative
SBJV	Subjunctive
SG	Singular

Contents

Chapter 1

Introduction

Contents

1   Object of study

This thesis examines the grammatical phenomenon of mood alternation between the indicative and the subjunctive mood in Romance languages, a topic that has been quite extensively explored and has consistently received attention in the literature since the advent of modern linguistics (Regula, 1925; Gili y Gaya, 1961; Nordahl, 1969; Rivero, 1971, 1979; Bell, 1980; Terrell & Hooper, 1974; Gsell & Wandruszka, 1986; Borrego et al., 1986; Hengeveld, 1988; Bosque, 1990; D'Introno, 1990; Klein, 1990; Kampers-Manhe, 1996; Farkas, 1992; Mejías-Bikandi, 1994, 1996, 1998; Quer, 1998; Pérez Saldanya, 1999; Ridruejo, 1999; Quer, 2001, 2009, 2010, 2021, 2022; Kwapisz-Osadnik, 2002; Borgonovo, 2003; Siegel, 2004, 2009; Schlenker, 2005; Laca, 2010; Portner & Rubinstein, 2013; Mari, 2017; Waltermire, 2017; Hennemann, 2020; Mari & Portner, 2020; Faulkner, 2021a,b, 2022; Giannakidou & Mari, 2021; Grisot et al., 2022; Montero & Romero, 2023). Mood alternation refers to minimal pairs of syntactic structures in which only the choice of verbal mood alternates, as observed in argument clauses (1), root clauses (2), and relative clauses (3).

(1)   El degà no creu   que els estudiants es
       the dean not believe.3P.SG that the students   REFL
       mereixin /   **mereixen**   un premi.
       deserve.3P.PL.SBJV deserve.3P.PL.IND a   prize
       'The dean does not believe that the students deserve a prize.'
       (*Catalan*, Quer, 1998)

(2)   Probablemente / posiblemente **venga** /   **viene**
       probably   possibly   come.3P.SG.SBJV come.3P.SG.IND
       esta tarde.
       this afternoon
       'Juan is probably/possibly coming this afternoon.'
       (*Spanish*, Igualada Belchí, 1989)

(3)   Je   cherche   une maison qui **ait** /
       1P.SG.NOM search.1P.SG.IND a   house   that have.3P.SG.SBJV
       a   des   volets   rouges.
       have.3P.SG.IND ART.INDF.PL shutters red
       'I am looking for a house that has red shutters.'
       (*French*, Kampers-Manhe, 1996)

As if the number of contexts for mood alternation were not enough, the phenomenon also intersects with a wide array of semantic and pragmatic dimensions such as genericity/specificity (Quer, 1998, 2001; von Heusinger & Kaiser, 2003), tense (Picallo, 1985; Suñer & Padilla-Rivera, 1987; Giorgi & Pianesi, 1997; Guajardo, 2019), presupposition (e.g., Rivero, 1971, 1979; Mejías-Bikandi, 1998; Quer, 1998, 2001, 2009; Schlenker, 2005), modality (Farkas, 1992; Giorgi & Pianesi, 1997; Portner & Rubinstein, 2013; Mari, 2017; Mari & Portner, 2020; Giannakidou & Mari, 2021, to appear), topicality and information status (Gsell & Wandruszka, 1986; Mejías-Bikandi, 1998; Becker, 2014a; Faulkner, 2021b, 2022), or commitment (Bustos, 1986; Bosque, 1990; Farkas, 2003; Schlenker, 2005; Giannakidou & Mari, 2021, to appear). Given the wide range of structural environments in which this phenomenon arises, as well as the diversity of linguistic dimensions it engages, mood alternation proves to be a thorny and challenging issue.

Thus, while mood alternation occurs across various syntactic environments, we will limit our focus here to argument clauses (1). Even within these, only on a limited subset, namely non-factive verbs such as 'say' and 'believe' under negation (4), as well as response-stance verbs (5) (RSVs; Cattell, 1978).

(4) Juan no dijo   ayer   que el alcalde
     Juan not say.3P.SG.IND.PST yesterday that the mayor
     fuera /   era   el responsable.
     be.3P.SG.SBJV.PST be.3P.SG.IND.IMPF the responsible
     'Juan didn't say yesterday that the mayor was responsible'.
     (*Spanish*, Bosque, 1990)

(5) Admite   que viniera /   vino   el
     admit.3P.SG.IND that come.3P.SG.SBJV.PST come.3P.SG.IND.PST the
     inspector.
     inspector
     '(S)he admits that the inspector came.'
     (*Spanish*, Rivero, 1971)

Accordingly, this thesis focuses on a narrow segment of the mood alternation – drawing primarily on data from Catalan and Spanish.

2   Purpose of this thesis

The purpose of this thesis is to offer a fresh theoretical perspective on verbal mood by using the phenomenon of mood alternation as a diagnostic window. Two main objects may be identified.

First, we examine verbal mood through a normative lens. This is mainly motivated by the observation in the mood literature that it often appeals to the notion of *commitment* (Rivero, 1971, 1979; Lleó, 1979; Bell, 1980; Borrego et al., 1986; Bustos, 1986; Hengeveld, 1988; Farkas, 1992; Mejías-Bikandi, 1998; Giannakidou, 1999; Grande Alija, 2002; Farkas, 2003; Siegel, 2004, 2009; Portner & Rubinstein, 2013; Giannakidou, 2014; Giannakidou & Mari, 2021; Romero, 2017, 2024; Silk, 2018). However, when examining the analyses, commitment often tends to translate into a cognitive concept (e.g., Schlenker, 2005; Giannakidou, 1995, 1999; Giannakidou & Mari, 2021, to appear; Romero, 2017, 2024; Silk, 2018). This is particularly striking insofar as the established literature on commitments (i.a. Hamblin, 1970; Lyons, 1995; Geurts, 2019b,a; Krifka, 2014, 2015, 2023, 2021) overwhelmingly treats commitments as a normative notion that must not be conflated with psychological states such as belief. We therefore undertake a critical reassessment of the assumption that commitment is inherently cognitive by revisiting its definition as a normative, non-psychological notion. In addition, it explores whether such a normative conception of commitment may offer a more adequate explanatory framework for mood. To the best of my knowledge, this is the first thesis to propose a normative account of mood, that is, an account that interprets the indicative not as belief-revealing, but as commitment-bearing.

Second, building on the assumption that indicative mood signals speaker commitments rather than beliefs, this thesis examines how mood alternation shapes discourse progression and the negotiation of information in the Common Ground (*CG*), modeled within the Commitment Space framework (Cohen & Krifka, 2011, 2014 *et seq.*). To my knowledge, this is the first application of the framework to a Romance language. Formalizing mood alternation in this model reveals the effects of each mood choice—specifically, how it redistributes commitments across discourse participants. The framework highlights the functional role of verbal mood: it marks the flow of commitments in discourse, clarifying its pragmatic impact and contribution to discourse structure. Thus, mood is shown not merely to reflect epis-

temic stance, but to actively draw the evolving landscape of commitments that structure conversation.

This thesis proposes to reframe the analysis of verbal mood by shifting focus from a predominantly cognitive perspective to one centered on commitments as a normative non-psychological notion (i.a. Hamblin, 1970; Lyons, 1995; Clark, 2006; Geurts, 2019a; Krifka, 2022). Rather than viewing mood primarily as an indicator of belief, the proposed account treats it as a normative device that manages commitments. By exploring mood alternation through this lens, the thesis offers a novel approach to the semantics–pragmatics interface and seeks to provide a more transparent account of mood interpretation in Romance languages.

3   Thesis overview

Chapter 2 gives an overview of the phenomenon of mood alternation, drawing on several non-exhaustive cases in Romance laguages in which mood alternation occurs (root clauses, relative clauses, argument clauses), as presented in the literature. We focus more closely on argument clauses and suggest a streamlined working definition of mood alternation in general and argument clauses in particular, limiting it structurally to cases where only mood varies. We close this chapter by exploring the question of whether mood alternation is a matter of free alternation, and conclude that mood choice yields interpretive differences, as the vast corpus of literature across Romance languages clearly confirms (i.a. Gili y Gaya, 1961; Rivero, 1971, 1979; Terrell & Hooper, 1974; Hengeveld, 1988; Bosque, 1990; D'Introno, 1990; Klein, 1990; Mejías-Bikandi, 1998; Quer, 1998, 2001, 2009, 2010, 2021, 2022; Pérez Saldanya, 1999; Siegel, 2004, 2009; Schlenker, 2005; Laca, 2010; Portner & Rubinstein, 2013; Mari, 2017; Mari & Portner, 2020; Faulkner, 2021a,b, 2022; Giannakidou & Mari, 2021; Grisot et al., 2022; Montero & Romero, 2023).

Chapter 3 can be subdivided into two parts. The first part lays out the concept of commitment in the normative sense as it has been prominently posited in the literature (i.a. Hamblin, 1970, 1971; Habermas, 1984; Lyons, 1995; Cohen & Krifka, 2011, 2014; MacFarlane, 2014; Krifka, 2014, 2015, 2017, 2021; Geurts, 2019a,b) and its distinction from cognitive attitudes such as beliefs. Here, we present a list of aspects where commitments and beliefs crucially differ, such as in passive vs. active update, communicative in-

tentionality, verifiability, closure under entailment and stacking, and aspects such as lying and insincerity. The second part is concerned with the use of the term *commitment* in the mood literature and explores whether the employment of the notion is congruent with that prominent in the commitment-literature. Drawing on two prominent and well-articulated theories of mood (Schlenker, 2005; Giannakidou & Mari, 2021, to appear), we find that the term commitment is interpreted as a cognitive state which boils down to the question of whether indicative mood signals belief or a commitment in the normative sense. We argue here that the latter is a better choice as it offers broader empirical coverage.

Chapter 4 looks at presupposition, for which we will argue that it plays a prominent role in mood alternation. Here, we first flesh out the tacit agreement regarding the strong relation between presupposition and speaker commitment (Stubbs, 1986; Searle & Vanderveken, 1985; Katriel & Dascal, 1989; Peters, 2016; Mazzarella et al., 2018). Here, we will see that for the data under discussion, the presupposed content projecting beyond the boundaries of a clausal complement (CC) is attributed to the speaker. The observations in this chapter further support the idea that the occurrence of the indicative together with presupposition suggests a commitment of someone to the presupposed content. We then examine mood alternation in contexts of non-factive verbs and response-stance verbs (RSVs) and pay attention to how presupposition affects mood choice.

Chapter 5 incorporates the phenomenon of mood alternation in the Commitment Space framework put forth in Cohen & Krifka (2011, 2014) and developed further in subsequent literature (Krifka, 2015, 2022, 2024). The chapter sets out to provide background information on the concept of Commitment Spaces (CSs) and how they are modelled formally. We then set out to discuss some case examples of mood alternation, namely mood alternation under non-factive verbs under negation such (e.g., 'not say', 'not believe'), followed by positive (e.g., 'admit') and negative RSVs (e.g., 'deny'). The overall goal of this chapter is to demonstrate formally the intricacies that mood alternation entails and further underscore the differences in their interpretation.

Chapter 6 concludes by reviewing the main findings, discussing outstanding questions and suggesting avenues for future research.

Chapter 2

What is mood alternation?

Contents

1   Setting the stage

Across Romance languages, we find two distinct verbal moods; indicative and subjunctive (see, *i.a.* Pérez Saldanya, 1999; Quer, 2010; Institut d'Estudis Catalans, 2016 for Catalan; Riegel et al., 2009; Grevisse & Goosse, 2009; De Mulder, 2010 for French; Giorgi & Pianesi, 1997; Maiden & Robustelli, 2007; Squartini, 2010 for Italian; Cunha & Cintra, 1984; Becker, 2010 for Portuguese; and Bosque, 1990; Laca, 2010; Real Academia Española, 2010 for Spanish)[1]. These two moods are generally distributed across distinct grammatical environments. That is, there are grammatical environments in which only the subjunctive is acceptable, while the indicative is systematically excluded, and *vice versa*. The following examples from Catalan (1), French (2), and Spanish (3) illustrate such a distribution of indicative and subjunctive with clausal complements (henceforth CCs) selected by 'want' and 'believe'.[2]

(1) a. Vull   que acabis /   *acabes   la
          want.1P.SG.IND that finish.2P.SG.SBJV finish.2P.SG.IND the
          tesi.
          thesis
          'I want you to finish the thesis.'
          (*Catalan*, Quer, 1998)

     b. Crec   que *sigui /   és   necessària
          think.1P.SG.IND that be.3P.SG.SBJV be.3P.SG.IND necessary
          una educació que   formi   una cultura.
          an   education which form.3P.SG.SBJV a   culture
          'I think that we need an education which leads to a culture.'
          (*Catalan*, subjunctive example from Lamiroy & Pineda, 2017)

(2) a. Paul veut   que nous soyons /   *sommes   là.
          Paul want.3P.SG.IND that we   be.1P.PL.SBJV be.1P.PL.IND
          'Paul wants that we be here.'
          (*French*, Godard, 2012)

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[1]Of course, the list of Romance languages mentioned here is not exhaustive, and as such, this does not imply that the indicative and subjunctive moods are absent in Occitan, Romanian, Raeto-Romance, Sardinian, and others.

[2]Note, however, that Italian *believe* (*credere*) allows for both indicative and subjunctive.

    b.   Je   crois   qu'il   *soit /
        1P.SG.NOM believe.1P.SG.IND that.he   be.3P.SG.SBJV

        est   venu.
        be.3P.SG.IND come.PPRT
        'I believe that he came.'
        (*French*, Achard, 1998)

(3)   a.   Quiero   que todo el   mundo se   calle /
        want.1P.SG.IND that all   the world   REFL shut-up.3P.SG.SBJV

        *se   calla.
         REFL shut-up.3P.SG.IND
        'I want everyone to shut up.'
        (*Spanish*, Borrego et al., 1986)

    b.   Creo   que *esté /   está   cansada.
        believe.1P.SG.IND that   be.3P.SG.SBJV be.3P.SG.IND tired
        'I think (s)he is tired.'
        (*Spanish*, Quer, 2009)

Cases such as the ones above suggest that mood distribution is rigid. However, it is less apparent upon closer inspection (see Quer, 2009 for a general discussion). In the next section, we present cases where indicative and subjunctive alternate within the same grammatical environment, without being mutually exclusive – often referred to as mood alternation (Quer, 1998, 2009; Becker & Remberger, 2010; Becker, 2010, 2014a,b; Laca, 2010) – illustrating the possibility of both moods coexisting in identical contexts. For the sake of consistency, we will henceforth use the term *mood alternation* to describe this grammatical phenomenon.

    We close this section with a brief note on terminology. Notably, we want to point out that next to mood alternation (Quer, 1998, 2009; Becker & Remberger, 2010; Becker, 2010, 2014a,b; Laca, 2010), the phenomenon is also labelled mood variability (Studerus, 1995; Poplack et al., 2013; Giannakidou & Mari, 2021; Quer, 2022), or mood variation (Gsell & Wandruszka, 1986; Silva-Corvalán, 2008; Marques, 2010, 2024; Waltermire, 2017; Mari & Portner, 2020; Faulkner, 2021a,b, 2022; Calafate, 2022). Often, these three terms are used interchangeably. However, it cannot be denied that a more standardised designation would be advantageous. In fact, some of these terms might be breeding grounds for misunderstandings, as they take factors into account that go beyond formal descriptions. The term mood alternation is

well-suited as a descriptive label for the grammatical phenomenon under discussion, for several reasons.

First, the notion of alternation is typically binary in nature. Just as we speak of an alternation between day and night, or between voiced [z] and voiceless [s] in English plurals (see dogs vs. cats), so too can we speak of an alternation between indicative and subjunctive mood. In linguistic theory, alternation generally refers to a contrast between two formally distinct but functionally related forms. This usage is found across various domains of linguistic analysis, including morphology (Payne, 1997), phonology (Kenstowicz, 1994), and syntax and semantics (Levin, 1993). Although alternation is understood here as a binary relation—that is, a contrast between two forms—it may nonetheless occur within broader systems involving multiple pairwise alternations. For example, form *A* may alternate with *B* in one context, and *B* with *C* in another, while each alternation remains binary in structure. In such cases, alternation is locally binary but may be embedded in a more complex system. When speaking of mood alternation, it is precisely this local binary alternation between indicative and subjunctive that is at issue. In contrast, the terms variation and variability often suggest a non-binary or gradient shift.

Second, variation is a semantically loaded term that is often used when talking about diachronic, dialectal, diastratic, or diaphasic variation, especially in Romance linguistics, where it was coined (Coşeriu, 1955, 1979). Note also that dialectological and sociolinguistic aspects are sometimes included when authors write about mood variation or variability where they are more invested in how mood alternation is affected by register, dialect, heritage speakers, etc. (Studerus, 1995; Silva-Corvalán, 2008; Calafate, 2022; Quer, 2022).

Third, mood alternation aligns more closely with either syntactic, semantic, or pragmatic triggers typically discussed in more formal linguistic analyses (*i.a.* Giannakidou, 1995; Stowell, 1995; Quer, 1998, 2009; Schlenker, 2005; Portner & Rubinstein, 2013; Mari & Portner, 2020; Faulkner, 2021a). In formal studies focusing on mood selection, the alternation often depends on specific grammatical environments—such as the selectional properties of the embedding verb (Quer, 1998, 2009; Baunaz & Puskás, 2022), the presence or absence of operators (Stowell, 1995; Giannakidou, 1995; Quer, 1998), or a certain constellation of the modal base of the matrix verb (Portner & Rubinstein, 2013; Mari, 2017; Giannakidou & Mari, 2021; Mari & Port-

ner, 2020). Using alternation underscores such a rule-governed behavior, whereas variation or variability might suggest a looser or more optional distribution, which could obscure the systematic nature of the phenomenon in many Romance languages.

2 Defining mood alternation

In this study, our primary focus will be on argument clauses. However, mood alternation is not limited to this domain. To demonstrate its broader relevance, we begin with an overview of mood alternation cases extending beyond argument clauses. This approach not only ensures completeness but also highlights the wide scope and significance of mood alternation for future research. By looking beyond argument clauses, we aim to propose a first descriptive definition that comprehensively captures the descriptive dimension in its entirety.

Root clauses A first and rather unexpected case is that of mood alternation in root clauses (Laca, 2010). Normally, root clauses are completely unacceptable when their finite verb is in the subjunctive mood, as (4) from Bosque (1990) suggests.

(4)   Pepe *esté /   está   loco.
      Pepe   be.3P.SG.SBJV be.3P.SG.IND crazy
      'Pepe is crazy.'
      (*Spanish*, Bosque, 1990)

Although we still find exceptions to the rule, they occur only on certain conditions. According to Laca (2010, 37), those root clauses carrying a subjunctive are only possible if properly licensed by elements such as negation (5-a) , particles (5-b), complementizers (5-c), or adverbs (5-d).

(5)   a.   No salgas!
           not leave.2P.SG.SBJV
           'Don't leave!'
           (*Spanish*, subjunctive examples from Laca, 2010)
      b.   Ojalá (que) llueva   café.
           PRT   that   rain.3P.SG.SBJV café.
           'May it rain coffee.'
           (*Spanish*, Demonte & Fernández-Soriano, 2014)

    c.   Que pase   el siguiente.
          that come-in.3P.SG.SBJV the next-one
          'Let the next one come in!'
          (*Spanish*, Quer, 2021)

    d.   Quizás/ Probablemente salga.
          maybe probaby   leave.1P.SG.SBJV/.3P.SG.SBJV
          'Maybe/Probably I/he will go out!'
          (*Spanish*, Laca, 2010)

However, only root clauses with adverbs in sentence-initial and non-parenthetical functions as in (6-a) and (6-b) allow for mood alternation, most prominently in Spanish (*i.a.* Bergen, 1978; Igualada Belchí, 1989; Lavandera, 1990; Kovacci, 1999; Haverkate, 2002; Laca, 2010; Hennemann, 2014, 2016, 2020).

(6)   a.   Probablemente / posiblemente venga /
          probably   possibly   come.3P.SG.SBJV
          viene   esta tarde.
          come.3P.SG.IND this afternoon
          '(S)he is probably/possibly coming this afternoon.'
          (*Spanish*, Igualada Belchí, 1989)

    b.   Tal vez lo   conozcas /   conoces.
          such time 3P.SG.M.ACC know.2P.SG.SBJV know.2P.SG.IND
          'Maybe you know him.'
          (*Spanish*, Gili y Gaya, 1961)

Sentence-final uses of *probablemente* ('probably')/*quizás* ('maybe') with a subjunctive are clearly ungrammatical; compare (7-a) with (7-b).

(7)   a.   Quizás / probablemente esté /   está   enfermo.
          maybe probably   be.3P.SG.SBJV be.3P.SG.IND sick
          'Maybe/ probably (s)he is ill.'

    b.   *Esté /   está   enfermo, quizás / probablemente.
          be.3P.SG.SBJV be.3P.SG.IND ill   maybe probably
          ~'He is ill, maybe/ probably.'
        (*Spanish*, Laca, 2010)

Thus, mood alternation in root clauses is limited to epistemic adverbs such as *probablemente* or *quizás* in non-parenthetical and sentence-initial uses.

Relative clauses We also find mood alternation in relative clauses in Catalan (Quer, 1998, 2016), French (Kampers-Manhe, 1996; Kwapisz-Osadnik, 2002), or Spanish (Rivero, 1971; Bolinger, 1974; Leonetti, 1999; von Heusinger & Kaiser, 2003).

(8)   Si coneix   un noi que li   agradi /
       if meet.3P.SG.IND a   boy that 3P.SG.DAT please.3P.SG.SBJV
       agrada,   se   n'enamora.
       please.3P.SG.SBJV REFL of.3P.SG.DAT-fall.for.3SG
       'If he meets a boy he likes, he falls for him.'
       (*Catalan*, Quer, 2016)

(9)   Je cherche   une maison qui ait /   a
       I search.1P.SG.IND a   house   that have.3P.SG.SBJV have.3P.SG.IND
       des   volets   rouges.
       ART.INDF.PL shutters red
       'I am looking for a house that has red shutters.'
       (*French*, Kampers-Manhe, 1996)

(10)   Busco   un libro en el   que se   analice /
       search.1P.SG.IND a   book in which that REFL analyze.3P.SG.SBJV
       analiza   el   modo en las oraciones de relativo.
       analyze.3P.SG.IND the mood in the clauses   of relative
       'I am looking for a book in which the mood in relative clauses is
       analyzed.'
       (*Spanish*, von Heusinger & Kaiser, 2003)

Argument clauses Argument clauses are the largest and most studied category in the literature discussing mood alternation, and we will exclusively dedicate ourselves to these cases from here. We may include a subdivision, beginning with so-called polarity subjunctives (Stowell, 1995; Giannakidou, 1995; Quer, 1998), i.e. subjunctives that are licensed "by a matrix negation or a question operator" (Quer, 1998, 31). Examples are found in (11) and (12) with the non-factive verbs *creure* and *decir*.

(11)   El degà no creu   que els estudiants es
       the dean not believe.3P.SG.IND that the students   REFL
       mereixin /   mereixen   un premi.
       deserve.3P.PL.SBJV deserve.3P.PL.IND a   prize

'The dean does not believe that the students deserve a prize.'
(*Catalan*, Quer, 1998)

(12)   Juan no dijo   ayer   que el   alcalde fuera /
        Juan not say.3P.SG.PST yesterday that the mayor be.3P.SG.SBJV.PST
        era   el   responsable.
        be.3P.SG.IND.IMPF the responsible.
        'Juan didn't say yesterday that the mayor was responsible'.
        (*Spanish*, Bosque, 1990)

Furthermore, mood alternation occurs even in the absence of overt opera-
tors such as negation. This is evident in argument clauses of emotive predi-
cates, as shown in examples (13) and (14), and discussed in detail for Cata-
lan (Quer, 1998, 2001, 2009), French Gsell & Wandruszka, 1986; Schlenker,
2005; Godard, 2012; Grisot et al., 2022, and Spanish (Borrego et al., 1986;
Bosque, 1990; Quer, 1998, 2001, 2009; Faulkner, 2022). Similar alternation
is also observed with so-called response stance verbs (RSVs) like 'accept',
'admit', and 'deny'. For further data, see analyses in Catalan (Quer, 1998,
2001, 2009, 2010; Institut d'Estudis Catalans, 2016), French Cellard, 1983;
Gsell & Wandruszka, 1986; Kwapisz-Osadnik, 2002; Grevisse & Goosse, 2009;
Grisot et al., 2022, and Spanish (Gili y Gaya, 1961; Sarmiento & Sánchez,
1989; Klein, 1990; Fukushima, 1995; Wasa, 1999; Farley, 2004; Laca, 2010;
Real Academia Española, 2010). Examples of RSVs appear in (15) and (16).

(13)   Es   queixa   que no li   facin /
        REFL complain.3P.SG.IND that not 3P.SG.DAT make.3P.PL.SBJV
        fan   cas.
        make.3P.PL.IND case
        '(S)he complains that they are not paying attention to him/her.'
        (*Catalan*, Quer, 2009)

(14)   Jean se   lamente   qu'il pleuve /   pleut.
        Jean REFL lament.3P.SG.IND that.it rain.3P.SG.SBJV rain.3P.SG.IND
        'Jean laments that it is raining.'
        (*French*, Schlenker, 2005)

(15)   Admite   que viniera /   vino   el
        admit.3P.SG.IND that come.3P.SG.SBJV.PST come.3P.SG.IND.PST the
        inspector.
        inspector

'(S)he admits that the inspector came.'
(*Spanish*, Rivero, 1971)

(16)   J'admets   que vous ayez /
       1P.SG.NOM-admit.1P.SG.IND that you have.2P.PL.SBJV
       avez   raison.
       have.2P.PL.IND reason
       'I admit that you're right.'
       (*French*, Grevisse & Goosse, 2009)

Now, what all of the above cases of mood alternation have in common is that they represent minimal pairs of two sentences. They are minimal insofar that, as it currently seems, only mood – indicative *vis-a-vis* subjunctive – are the distinguishing factor of each sentence pair as this is the only overt morphosyntactical marking that distinguishes one sentence from the other. To capture this descriptively, we formulate the following tentative definition for mood alternation as a structural grammatical phenomenon, as proposed in (17).

(17)   *Mood alternation* (first attempt)
       For every minimal pair $S = \{a, b\}$, where a and b represent sentences, S displays mood alternation iff
       a.   the finite verb v_{fin} in a appears in verbal mood o, and its lexically identical counterpart v'_{fin} in b appears in verbal mood v, where $o \neq v$.
       b.   no other overt lexical or morphological material in a and b differs.

A few comments are in order. First of all, by 'sentences', we mean simplex sentences - i.e., sentences consisting of a single clause. Thus, the pair a/b corresponds to a sentence such as (4), repeated here as (18).

(18)   Pepe *esté /   está   loco.
       Pepe be.3P.SG.SBJV be.3P.SG.IND crazy
       'Pepe is crazy.'
       (*Spanish*, Bosque, 1990)

When discussing relative clauses (20)(=(9)) or argument clauses (19) (=(13)), the smallest clause is the embedded clause, indicated here in brackets.

(19)   Es   queixa   [que no li   facin /
        REFL complain.3P.SG.IND that not 3P.SG.DAT make.3P.PL.SBJV
        fan   cas].
        make.3P.PL.IND case
        '(S)he complains that they are not paying attention to him/her.'
        (*Catalan*, Quer, 2009)

(20)   Je cherche   une maison [qui ait /
        I search.1P.SG.IND a   house   that have.3P.SG.SBJV
        a   des   volets   rouges].
        have.3P.SG.IND ART.INDF.PL shutters red
        'I am looking for a house that has red shutters.'
        (*French*, Kampers-Manhe, 1996)

While all the examples above conform to the pattern of sentences in which mood alternation between finite verbs occurs, we will see that further refinement is needed in the case of argument clauses, which will be examined in §3.

3   Further restrictions for mood alternation in argument clauses

Our preliminary definition of mood alternation in (17) aims to capture the data presented in §2. However, as we zoom in on argument clauses, we will see that this initial formulation is incomplete: it allows for exceptions to the predicted rigidity of mood distribution and thus requires refinement. We will briefly discuss these issues, leading to a refined working definition of mood alternation, more appropriately suited to the cases under investigation.

3.1   Constant predicate requirement

Let us begin with a remark that, while seemingly trivial, is in fact crucial: Argument clauses are simplex clauses within a more complex clause. Put differently, in the case of argument clauses, sentences a and b, whose finite verbs bear the verbal moods o and v, are embedded under a specific embedding predicate for which we will use the shorthand $\mathcal{P}$. The resulting complex clauses are of the form $\mathcal{P}(a)$, or $\mathcal{P}(b)$, respectively.

Note that this notation for complex clauses is, as it implies that the embedding predicate ($\mathcal{P}$) is identical in both cases; otherwise we would have written something like $\mathcal{P}(b)$ and $\mathcal{V}(a)$. However, our definition in (17) does not capture this seemingly trivial restriction – nor does it account for cases in which mood alternation arises in more complex structures of such as $\mathcal{P}(a/b)$. It merely states that the arguments of $\mathcal{P}$, a and b, form a minimal pair, overlooking the structural uniformity of the embedding predicate. Without such a restriction, one could also claim that (21) exemplifies mood alternation, since a and b, here functioning as argument clauses of arbitrary embedding predicates, differ only in verbal mood – thus fulfilling all requirements in (17).

(21)   a.   En Joan diu   que l'han
            the Joan say.3P.SG.IND that 3P.SG.M.ACC-have.3P.PL.IND
            enganyat.
            deceive.PPRT
            'Joan says that they deceived him.'
       b.   En Joan es   queixa   que
            the Joan REFL complain.3P.SG.IND that
            l'hagin   enganyat.
            3P.SG.M.ACC-have.3P.PL.SBJV deceive.PPRT
            'Joan complains that they deceived him.'
       (*Catalan*)

Of course, we want a definition for mood alternation that avoids such predictions and accurately reflects what is already implicitly conveyed by examples (11), (12), or (13), namely that mood alternation is about those cases that occur in the context of the *same* embedding predicate. We then suggest a second attempt for our descriptive definition of mood alternation, (22), to eliminate this flaw. The new restriction for our first attempt at a definition, (17), is found in (22-c).

(22)   *Mood alternation* (second attempt)
       For every minimal pair $S = \{a, b\}$, where a and b represent sentences, S displays mood alternation iff
       a.   the finite verb v_{fin} in a appears in verbal mood o, and its lexically identical counterpart v'_{fin} in b appears in verbal mood v, where $o \neq v$.

b.   no other overt lexical or morphological material in *a* and *b* differs.

c.   both *a* and *b* are arguments of the same predicate $\mathcal{P}$, if embedded by a predicate $\mathcal{P}$.

With this revised definition, we can now rule out cases such as (21). Even though the argument clauses *a/b* in (21-a) and (21-b) differ only in mood, they do not count as an instance of mood alternation. The reason is that the clause in (21-a) is embedded under the embedding predicate *dir*, while the clause in (21-b) is embedded under *queixar-se*. That is, in (21-a), $\mathcal{P} = \llbracket \text{dir} \rrbracket$, whereas in (21-b), $\mathcal{P} = \llbracket \text{queixar-se} \rrbracket$. Since $\mathcal{P}$ is a variable for the embedding predicate that must embed sentences *a* and *b* to count as mood alternation, (21) is not a case of mood alternation any more because $\mathcal{P}$ is assigned to two distinct embedding predicates. In formal terms: in (21-a), $\mathcal{P} = \llbracket \text{dir} \rrbracket$, whereas in (21-b), $\mathcal{P} = \llbracket \text{queixar-se} \rrbracket$. Since $\mathcal{P}$ must be the same embedding predicate in both clauses *a* and *b* for a case to qualify as mood alternation, (21) no longer meets the criteria.

3.2   Internal argument requirement

The changes in (22) restrict our definition of mood alternation to argument clauses that must be embedded under the same predicate $\mathcal{P}$. However, our new restriction (22-c) might still be incomplete. To illustrate this, consider (23) and (24) which Quer (1998) calls 'double mood selection', i.e. the possibility for a predicate to select both indicative and subjunctive.

(23)   Diu   que li   escriguis.
       say.3P.SG.IND that 3P.SG.DAT write.2P.SG.SBJV
       '(S)he tells you to write her/him.'
       (*Catalan*, Quer, 1998)

(24)   Diu   que li   escrius.
       say.3P.SG.IND that 3P.SG.DAT write.2P.SG.IND
       '(S)he says that you write to her/him.'
       (*Catalan*)

Note that the argument clauses in examples (23) and (24) fulfill all the necessary criteria outlined in (22). That is, the argument clauses *a* and *b* differ only in verbal mood and are embedded by the same predicate, namely *dir*.

Why, then, are examples (23) and (24) still problematic and therefore not considered cases of mood alternation? Quer (1998) sheds light on an important distinction between these examples: the subjunctive CC in (23) is not the internal argument of *dir*. He proposes that the subjunctive CC of *dir* is embedded under a covert CAUSE head, which forms part of a coordination phrase coordinated with a VP with its head *dir* (cf. Quer, 1998, 59).

While we will briefly illustrate these two structures, we will not delve into the details of the analytical proposal itself. What is relevant here are the structural differences: structure (25) corresponds to example (23), while structure (26) corresponds to example (24).

(25)   [$_{\&P}$ [$_{VP}$ [$_{DP}$ *pro$_i$*] [$_{V'}$ diu]] [$_{\&'}$ [$_{\&}$] [$_{VP}$ PRO$_i$ [$_{V'}$ CAUSE [$_{CP}$ que li escriguis]]]]]

(26)   [$_{VP}$[$_{DP}$ *pro$_i$*][$_{V'}$ diu [$_{CP}$ que li escrius]]]

We now focus on the main argument supporting the view that subjunctive clausal complements (CCs) cannot serve as internal arguments of *dir*. Overall, Quer (1998)'s analysis suggests that the examples like (23) and (24) are fundamentally different from cases involving emotives ((13)-(14)), or RSVs ((15)-(16)).Quer's main argument centers on a coordination test, in which indicative and subjunctive CCs are conjoined and their order reversed. The results of this test are illustrated in (28) and (27). In (27), the first conjunct of the overall CC is in the subjunctive mood, whereas in (28), the first conjunct carries the indicative.

(27)   *Diu   que li   escriguis   i   que
         say.3P.SG.IND that 3P.SG.DAT write.3P.SG.SBJV and that
         t'enyora.
         2P.SG.ACC-miss.3P.SG.IND
         '(S)he tells you to write to her/him and that (s)he misses you.'
         (*Catalan*, Quer, 1998)

(28)   Diu   que t'enyora   i   que li
         say.3P.SG.IND that 2P.SG.ACC-miss.3P.SG.IND and that 3P.SG.DAT
         escriguis.
         write.3P.SG.SBJV
         '(S)he says that (s)he misses you and tells you to write to her/him.'
         (*Catalan*, Quer, 1998)

Quer's argument proceeds as follows: If subjunctive CCs were indeed internal arguments of *dir*, then the order of the coordinated CCs should be irrelevant, and both (27) and (28) would be expected to be equally grammatical. However, (27) is ungrammatical, suggesting that free coordination is impossible in this context. Based on Quer's (1998) analysis, illustrated in (25), the grammaticality of (28) follows from the subjunctive in the second conjunct being selected by the covert CAUSE-head. Conversely, the ungrammaticality in (27) is also predicted, as it would require the indicative to be selected by the CAUSE-head. This is an impossible configuration, since the indicative should instead function as an internal argument of *dir*. This analysis correctly predicts that the subjunctive CC cannot be analyzed as an internal argument of *dir*. Quer therefore concludes:

> [W]e cannot coordinate the subjunctive complement with an indicative CP, which could occur only as the complement of the 'plain' (or simplex) verb 'to say', hence the ungrammaticality. Ultimately, the exclusion of [(27)] must be attributed to the violation of the selectional requirements of CAUSE by choosing an indicative complement as the second conjunct. (Quer, 1998, 59)

The relevance of taking such cases into account to further restrict our definition of mood alternation in (22) become evident. Although (23) and (24) both exhibit mood alternation within their respective argument clauses and therefore appear to meet all criteria in (22), they do not form a minimal pair. This is because only the argument clause in (24) functions as an internal argument of *dir*, whereas the argument clause in (23) does not.

3.3 Towards a working definition of mood alternation for argument clauses

With the issues pointed out in §3.1 and §3.2, we can summarize our final working definition of mood alternation in (29)

(29)   *Mood alternation* (final version)
        For every sentence pair $S = \{a, b\}$, S displays mood alternation iff
        a.   the finite verb v_{fin} in *a* appears in verbal mood o, and its lexically identical counterpart v'_{fin} in *b* appears in verbal mood v, where $o \neq v$.

     b.   no other overt or covert lexical, or morphological material in
          a and *b* differs except as required by grammatical agreement
          or subcategorization.
     c.   both *a* and *b* are internal arguments of the same predicate $\mathcal{P}$,
          if embedded by $\mathcal{P}$.

With (29-c), we have further reduced the scope of mood alternation for argument clauses and define more precisely. More precisely means that we narrow down the scope of mood alternation to those cases of mood alternation in argument clauses that are internal arguments of the same embedding predicate $\mathcal{P}$.

    The only remaining question is whether (29) is applicable to our previous cases of argument clauses. We list them here again for convenience: non-negated factives (30), RSVs (31), and emotives (32).

(30)   El degà no creu   que els estudiants es
        the dean not believe.3P.SG.IND that the students   REFL
        mereixin /   mereixen   un premi.
        deserve.3P.PL.SBJV deserve.3P.PL.IND a   prize
        'The dean does not believe that the students deserve a prize.'
        (*Catalan*, Quer, 1998)

(31)   Acepto   que el casc   portegeixi /
        accept.1P.SG.IND that the helmet protect.3P.SG.SBJV
        protegeix.
        protect.3P.SG.IND
        'I accept that the helmet protects.'
        (*Catalan*)

(32)   Es   queixa   que no li   facin /
        REFL complain.3P.SG.IND that not 3P.SG.DAT make.3P.PL.SBJV
        fan   cas.
        make.3P.PL.IND case
        '(S)he complains that they are not paying attention to him/her.'
        (*Catalan*, Quer, 2009)

We can already confirm the criterion that all embedded clauses under the same predicate can be easily verified by looking at the examples (30)-(32) themselves. What remains is to check whether the CCs are in fact internal

arguments of the verbs embedding them. The contrastive examples (33-a) and (33-b) are originally taken from Quer (1998).

(33)   a. *Es queixava   que li
            refl complain.3P.SG.IND.IMPF that 3P.SG.DAT
            posessin   males notes i   que la
            put.3P.SG.SBJV.PST bad   marks and that 3P.SG.F.ACC
            castigaven.
            punish.3P.SG.IND.IMPF
            '(S)he complained that they gave her bad marks and punished
            her.'
            (*Catalan*, Quer, 1998)
        b. *Es queixava   que li
            refl complain.3P.SG.IND.IMPF that 3P.SG.DAT
            posaven   males notes i   que la
            put.3P.SG.IND.IMPF bad   marks and that 3P.SG.F.ACC
            castiguessin.
            punish.3P.SG.SBJV.PST
            '(S)he complained that they gave her bad marks and punished
            her.'
            (*Catalan*, Quer, 1998)

Firstly, note that both combinations of conjuncts, 'SBJV ∧ IND' (33-a) and 'IND ∧ SBJV' (33-b), are ungrammatical. Even though (33-a) is ungrammatical just like (27), (33-a) is not ungrammatical for the same reasons as (27) because (27) displays a different syntactic structure than (33-a). That the latter cannot have a covert CAUSE-head is shown by the stark contrast between (33-b) and (28), where argument clauses with the first conjunct in the indicative are grammatical in (28). This observation confirms two things: First, the assumption of some covert (CAUSE-)head is not motivated because it was for *dir* in (28). Second, as a result of the first point, it is plausible that both indicative and subjunctive CCs are internal arguments of *queixar-se*.

    The same results are obtained when applied to RSVs and negated non-factives, where neither the combination 'SBJV ∧ IND' nor 'IND ∧ SBJV' is possible.

(34)   a. *Acepto   que el casc   protegeix   i   que
                  accept.1P.SG.IND that the helmet protect.3P.SG.IND and that
                  eviti   lesions greus.
                  prevent.3P.SG.SBJV lesions grave
                  'I accept that the helmet protects and prevents serious injuries.'

        b. *Acepto   que el casc   protegeixi   i   que
                  accept.1P.SG.IND that the helmet protect.3P.SG.SBJV and that
                  evita   lesions greus.
                  prevent.3P.SG.IND lesions grave
                  'I accept that the helmet protects and prevents serious injuries.'
       (*Catalan*)

(35)   a. *El degà no creu   que els estudiants es
                  the dean no believe.3P.SG.IND that the students   REFL
                  mereixin   un premi i   que ells han
                  deserve.3P.PL.SBJV a   prize and that they have.3P.PL.IND
                  fet   un esforç.
                  made a   effort
                  'The dean does not believe that the students deserve an award and that they have made an effort.'

        b. *El degà no creu   que els estudiants es
                  the dean no believe.3P.SG.IND that the students   REFL
                  mereixen   un premi i   que ells hagin
                  deserve.3P.PL.IND a   prize and that they have.3P.PL.SBJV
                  fet   un esforç.
                  made a   effort
                  'The dean does not believe that the students deserve an award and that they have made an effort.'
       (*Catalan*)

In sum, we have shown that the remainder of our examples meet the criteria set out in our working definition of mood alternation, as given in (29). This definition ensures that mood alternation, as we use the term in accordance with our definition (29), applies strictly to minimal pairs in which only mood varies, with everything else held constant.

4   Is mood alternation free alternation?

While we have so far discussed mood alternation as a structural phenomenon that treats them as minimal pairs, we are still left with the question whether those cases of mood alternation based on our definition display any difference in meaning. Consequently, this raises a crucial question: Is mood alternation semantically vacuous or not? The position that we will follow here is that there is no semantic vacuity in mood alternation and that it always incurs interpretational differences, as has been pointed out extensively (*i.a.* Gili y Gaya, 1961; Rivero, 1971, 1979; Terrell & Hooper, 1974; Gsell & Wandruszka, 1986; Hengeveld, 1988; Bosque, 1990; D'Introno, 1990; Klein, 1990; Mejías-Bikandi, 1994, 1998; Quer, 1998, 2001, 2009, 2010, 2021, 2022; Pérez Saldanya, 1999; Siegel, 2004, 2009; Schlenker, 2005; Laca, 2010; Portner & Rubinstein, 2013; Mari, 2017; Mari & Portner, 2020; Faulkner, 2021a,b, 2022; Giannakidou & Mari, 2021; Montero & Romero, 2023). In the following, we will present some arguments that support this view for the subset of cases of mood alternation in argument clauses, namely negated non-factives, RSVs, and emotives.

4.1   Negated non-factives

Let us begin with negated non-factives, i.e. *verba putandi* and *verba dicendi*. The examples from Quer (1998) in (36) and (37) shall serve as our first argument that mood alternation brings about differences in meaning. Note further that next to the sentences where mood alternation occurs, we find two possible follow-ups, where the speaker either agrees with the dean's disbelief (36-a)/(37-a), or (s)he disagrees and does believe what the dean does not believe (36-b)/(37-b). Note crucially that only with the subjunctive CCs, both follow-ups are felicitous.

(36)   El degà no creu   que els estudiants es
       the dean not believe.3P.SG.IND that the students   REFL
       mereixin   un premi
       deserve.3P.PL.SBJV a   prize
       'The dean doesn't believe that the students desserve a prize,'

    a.   i   jo   tampoc no ho   crec.
            and 1P.SG.NOM neither not 3P.SG.NEUT.ACC believe.1P.SG.IND
            'and I don't believe it either.'

b.   pero jo   crec   que sí.
       but   1P.SG.NOM believe.1P.SG.IND that yes
       'but I believe they do.'
(*Catalan*, Quer, 1998)

(37)   El degà no creu   que els estudiants es
        the dean not believe.3P.SG.IND that the students   REFL
        mereixen   un premi
        deserve.3P.PL.IND a   prize
        'The dean doesn't believe that the students deserve a prize,'

a.   #i   jo   tampoc no ho   crec.
       and 1P.SG.NOM neither not 3P.SG.NEUT.ACC believe.1P.SG.IND
       'and I don't believe it either.'
b.   pero jo   crec   que sí.
       but   1P.SG.NOM believe.1P.SG.IND that yes
       'but I believe they do.'
(*Catalan*, Quer, 1998)

Quer (1998, 69) argues that in (37), the propositional content of the indicative CC is presupposed "on the part of the speaker", whereas with the propositional content of the subjunctive CC in (36), it is not. Consequently, the speaker displays an inconsistency with the follow-up (37-a) in (37) but not with either follow-up in (36).

We find similar observations in Bosque (1990) in the following example with *no decir*. Again, both indicative and subjunctive are possible in (38).

(38)   Juan no dijo   ayer   que el alcalde
        Juan not say.3P.SG.IND.PST yesterday that the mayor
        fuera /   era   responsable.
        be.3P.SG.SBJV.PST be.3P.SG.IND.IMPF responsible
        'Juan didn't say yesterday that the mayor was responsible.'
        (*Spanish*, Bosque, 1990)

However, the interpretations of indicative and subjunctive CCs are different. According to Bosque (1990, 36), the indicative CC allows for foci on various constituents in (38), including the temporal adverb *ayer*. When focus falls on *ayer*, the interpretation is that although Juan said the mayor is responsible, it was not yesterday that he said it – an interpretation illustrated

in (39), where the contrastive follow-up clarifies that Juan did, in fact, say it yesterday.

(39)   Juan no dijo   [ayer]$_F$ que el alcalde
       Juan not say.3P.SG.IND.PST yesterday that the mayor
       era   responsable, sino el martes pasado.
       be.3P.SG.IND.IMPF responsible   but the Tuesday pass.PPRT
       'Juan didn't say yesterday that the mayor was responsible. He said
       it last Tuesday.'
       (*Spanish*, Bosque, 1990)

Bosque argues that such a reading is unavailable if the CC carries a finite verb in the subjunctive. Here, the focus is always on the whole CC itself. Thus, with cases of subjunctive CCs, a focus on another constituent is not possible, as he shows with the pseudo-cleft in (40) that would shift the focus away from the subjunctive CC to *Juan*. Notice that according to Bosque (1990), the subjunctive is infelicitous.

(40)   No fue   [Juan]$_F$ quien dijo   [que el
       not be.3P.SG.IND.PST Juan   who say.3P.SG.IND.PST that the
       alcalde *fuera /   era   responsable].
       mayor   be.3P.SG.SBJV.PST be.3P.SG.IND.IMPF responsible.
       'It wasn't Juan who said that the mayor was responsible.'
        (*Spanish*, Bosque, 1990)

The follow-up *sino el martes pasado* in (39) is also impossible after a sentence with a subjunctive CC, as in (41), since it would result in a contradictory interpretation (Bosque, 1990, 37f.). (41) before the follow-up *sino el martes pasado* expresses that 'the mayor is responsible' is not what Juan said (but something else). Adding focus to *ayer* would suggest that he said it, but not yesterday, which results in the contradiction.

(41)   Juan no dijo   ayer   [que el alcalde
       Juan not say.3P.SG.IND.PST yesterday that the mayor
       fuera   responsable], #sino el martes pasado.
       be.3P.SG.SBJV.PST responsible   but the Tuesday pass.PPRT
       'Juan didn't say yesterday that the mayor was responsible. He said
       it last Tuesday.'
       (*Spanish*, Bosque, 1990)

Bosque explains that in (41), only the subjunctive CC carrying subjunctive can be in focus, or as (Quer, 1998, 70 f.) suggests in a more formal approach, subjunctive CCs under negation "always display 'narrow scope' with respect to matrix negation", that is, only the proposition of the CC remains in the scope of the negation.[3] If focus would be shifted such that it would only be on *ayer*, the sentence turns out unacceptable, as the follow-up in (41) suggests, thus further corroborating that subjunctive retains its 'narrow scope' regardless.

Thus, our non-factive examples already suggest that verbal mood plays a decisive role in interpretation. We now turn to additional cases to confirm that this observation holds more generally for mood alternation in argument clauses.

4.2   Response stance verbs

For response stance verbs (RSVs), Rivero (1971, 1979) also argues that mood alternation does have a difference in meaning. She explains that if we find an indicative in the CC of an RSV, "there is a presupposition on the part of the speaker that the complement is true", whereas with the subjunctive, "there is no presupposition about the truth of the complement" (Rivero, 1971, 324). Similar claims were made for Catalan in Quer (1998) who adopts the findings from Rivero (1971, 1979).

The following example from Rivero (1971) aims to distinguish between the interpretations of indicative and subjunctive CCs in RSVs. This, in turn, demonstrates that mood alternation cannot be attributed to free alternation and therefore cannot occur under such conditions.

(42)   *Context: Suppose a prisoner is being interrogated and the interrogator knows that an inspector visited that prisoner but the prisoner himself is unaware of this. The prisoner had been interrogated for hours in search of that specific admission, and after several hours the prisoner confesses that the inspector visited him.*

    a. #Admite   [que viniera   el inspector].

       admit.3P.SG.IND   that come.3P.SG.SBJV.PST the inspector

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[3] Here, one should mention the work by Villalta (2006, 2008) for other cases of argument clauses where the subjunctive is equally focus-sensitive.

'(S)he admits that the inspector came.'
b.   Admite   [que vino   el   inspector].
     admit.3P.SG.IND   that come.3P.SG.IND.PST the inspector
(*Spanish*, Rivero, 1971)

As Rivero (1971) explains,

> [t]he interrogator then makes a report of the form of [(42-b)] where
> he is actually stating that the prisoner has finally admitted what he,
> the interrogator, considers to be the truth. If the person interrogat-
> ing the prisoner had not known that the inspector had come, when
> the prisoner would have made his confession, [(42-a)] would imply
> that the interrogator is simply reporting what happened but that he
> himself does not have a way to evaluate the importance of the confes-
> sion.

Quer (2009) also briefly talks about performative cases in French, re-
peated here again as (43).

(43)   J'admets   que vous ayez /
       1P.SG.NOM-admit.1P.SG.IND that you   have.2P.PL.SBJV
       avez   raison.
       have.2P.PL.IND reason
       'I admit that you're right.'
       (*French*, Grevisse & Goosse, 2009)

Here, he argues that "the embedded proposition expressed in subjunctive is
presupposed [...], whereas the indicative version simply asserts the content
of the concession" (Quer, 2009, 1782).

Another argument contrasts indicative with subjunctive in terms of (non-
)assertive readings more clearly, namely performative uses of RSVs with a
subjunctive CC that are odd if the propositional content of the CC has not
been subject of the ongoing conversation. Take the following Catalan exam-
ple in (45) where the context suggest that the propositional content of the CC
itself has not been under discussion before. A subjunctive CC (45-a) turns
out to be infelicitous, whereas the indicative (45-b) is perfectly acceptable.

(44)   *Context: You have a discussion with your friend Joan on global warm-
       ing and how to take individual measures to reduce your carbon foot-*

print. The topic of eating meat has not been brought up throughout the conversation and you say:

a. #Admeto   que la   carn contamini.
    admit.1P.SG.IND that the meat contaminate.3P.SG.SBJV
    'I admit that eating meat is polluting the environment.'

b. Admeto   que la   carn contamina.
    admit.1P.SG.IND that the meat contaminate.3P.SG.IND
    'I admit that eating meat is polluting the environment.'

(*Catalan*)

Such cases are often linked to thematicity or old vs. new information, a contrast that has often been associated with occurrences of mood alternation (Regula, 1925; Gsell & Wandruszka, 1986; Quer, 2016; Faulkner, 2021a; but see Becker, 2014b and Buchczyk, to appear for an alternative view). As indicative is often treated as the mood of assertion (Terrell & Hooper, 1974; Quer, 2009), (45-b) would raise an (implicit) question under discussion (QUD) (see Roberts, 1996; Ginzburg, 1996; Farkas & Bruce, 2010) and treat the contet of the CC as given. As such, this could explain why the indicative is acceptable even if the propositional content of the CC has not been entertained before in a conversation. Given that the subjunctive does not yield an assertive reading in (45-a), it would not raise a QUD and as such result in infelicity as it fails to address the current QUD, e.g. 'How to reduce your carbon footprint?', as we may extrapolate from the context in (45). Lastly, we want to consider the following example:

(45)   *Context: You have a discussion with your friend Joan on global warming and how to take individual measures to reduce your carbon footprint. The topic of eating meat has been brought up throughout the conversation and you say:*

a. Admeto   que la   carn contamini.
    admit.1P.SG.IND that the meat contaminate.3P.SG.SBJV
    'I admit that eating meat is polluting the environment.'

b. Admeto   que la   carn contamina.
    admit.1P.SG.IND that the meat contaminate.3P.SG.IND
    'I admit that eating meat is polluting the environment.'

(*Catalan*)

Here, the context is such that the topic of eating meat has been brought up. Note here that both indicative and subjunctive are felicitous choices. We will discuss the details of such cases later in Chapter 4, §3.2.1.

5   Summary

This chapter served to set the stage for two core aims: to define the phenomenon of mood alternation and to argue that it is not semantically vacuous. We began by characterizing mood alternation as a minimal pair of atomic sentences differing only in mood. Narrowing our focus to argument clauses, we further refined the definition by introducing a structural constraint. Namely, mood alternation occurs only when both clauses are immediate arguments of their embedding predicate, thereby excluding cases of double mood selection. This ensures that mood is the sole distinguishing factor. Our structural definition thus rests on two criteria: (i) mood and only mood differentiates the two argument clauses, and (ii) both clauses must serve as internal arguments of their respective predicates. Finally, we demonstrated that mood alternation is not a case of free alternation, but rather gives rise to distinct interpretive effects.

Chapter 3

Commitments and verbal mood in Romance

Contents

1   Introduction

In this chapter, we will be looking at a core notion that will accompany us throughout, namely commitments. We will first lay out what the term means and what the core properties of commitments are and how they differ from cognitive notions such as belief. The comparison is insofar relevant that both terms are used in the mood literature but never get distinguished from each other as we will do here. To demonstrate this, we will draw on prominent mood theories and display that commitment is either used as an auxilliary term couched within doxastic logic or just a placeholder that does not correspond to the intended meaning of commitments in the relevant literature that treat commitments as a normative notion that is distinct from beliefs. To that end, we aim for a truly normative-based account for mood.

The structure is as follows: In §2, we will elaborate on the notion of commitment in the normative sense since Hamblin (1970, 1971) and more recent literature thereafter, e.g. (Clark, 2006; Geurts, 2019a,b; Krifka, 2023, 2024). Here, we set the foundation for the notion of commitment we will pursue throughout, namely that a speaker undertaking a commitment vouches for the truth of ϕ and holds all responsibility after undertaking it. §3 aims to distinguish commitments – a normative notion – from beliefs – a cognitive notion. We will draw on a non-exhaustive selection of examples such as what we will provisionally call passive and active uptake (§3.1), communicative intentionality (§3.2), verifiability (§3.3), closure under entailment and stacking (§3.4), as well as lying and insincerity (§3.5). By doing so, we arrive at the conclusion that commitments must be distinguished from cognitive attitudes.§4 delves into the mood literature and the notion of commitment used there. As we will see, the term has not been used in the same way as in the prominent literature that treats commitments by a majority as a normative notion. We will demonstrate this by presenting two sophisticated and formalized theories as put forth in Schlenker (2005), and Giannakidou & Mari (2021) and Giannakidou & Mari (to appear). We will show that in both theories, the term *commitment* is interpreted as a cognitive notion, whereby we will observe that no reference to the literature on commitments has been made and if, it was made to distinguish ones own theory of commitment from its normative interpretation. The conclusion we will draw is that despite the use of the term *commitment*, both theories are, at the core, cognitive accounts of mood. This brings us to §5, where we will critically exame

what consequences such cognition-based accounts of mood bring based on the distinctions we made in §3. We will see that with the adaptation of a cognitive account for mood, problems will arise that a normative account will not have, thus arriving at the conclusion that indicative mood is, in fact, commitment-bearing, not belief-revealing. As a result we will be switching sockets and pursue a normative-account of mood, where the indicative marks a normative commitment in the sene that the user of an indicative signals that (s)he vouches for the truth of ϕ.

2   The notion of commitment

Let us first look at the meaning of the term *commitment* proper as we intend to use it and start with a fitting description from Geurts (2019a,b), who describes commitments as a form of "expectation management" that serves as "a way of permitting others to rely on us to act in certain ways" (Geurts, 2019a, 3) in everyday conversation. 'Acting in certain ways' in terms of commitments means, on the one hand, that they be consistent, and being consistent means that a discourse agent ought to refrain from commitments that contradict prior ones they previously made. Thus, commitments also sport a restrictive property such that, to take up Geurts' wording again, we expect a discourse agent to avoid those commitments that are not consistent with those previously undertaken (i.a. Hamblin, 1970, 1971; Habermas, 1984; Lyons, 1995; Geurts, 2019a,b; Krifka, 2023, 2021, 2024). On this view, we may state that commitments have a regulatory character for discourse among linguistic agents. Thus, as soon as such agents have them, they restrict their communicative (and non-communicative[1]) actions, whereby restricting means not undertaking those commitments that would give rise to inconsistency.

Let us then move on to the next aspect, namely, what one is committed to. Usually, commitments are described as a relation between agents and propositional contents (Gunlogson, 2001, 2008; Cohen & Krifka, 2011; Geurts, 2019b; Shapiro, 2020), and we will principally concern ourselves

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[1]One such case would be to say that one does not steal, thereby committing to not stealing, while committing theft. We will not focus on non-communicative commitments here, however.

with this view here.[2] Making a commitment to a proposition in the intended sense here is understood as vouching 'for the truth of a proposition', an idea which, according to Tuzet (2006) and Krifka (2023), goes all the way back to Charles Sanders Peirce's earlier reflections on assertion (cited after Peirce, 1994), who wrote that "to assert a proposition is to make oneself responsible for its truth" [CP 5.543] (see also MacFarlane, 2011 and references therein). Making oneself responsible, vouching for the truth, as well as making oneself liable (Krifka, 2023) may be treated synonymously. Regardless of which is to prefer, what all of these formulations have in common is that they imbue commitments with a normative meaning. More concretely, this means that with an assertion, the trigger of a commitment *par excellence*, the speaker becomes committed to its propositional content such that (s)he "accepts a liability in case the proposition turns out to be false" (Krifka, 2023). Thus, taking responsibility, vouching, or making oneself liable boils down to different formulations of the same normative aspect, namely that the person committed to the content is accountable for what they commit to. Thus, we can conclude that problems regarding commitments can arise not only when they are inconsistent. A speaker can also be held accountable when the content to which the speaker commits is false. The linguistic agent that commits to a proposition thus has a twofold responsibility: first, to avoid inconsistencies and second, to ensure that the content to which they commit is well-founded, informationally sound, or at least not completely false. We could thus speak of commitments as warrants, which are issued to the addressee by a speaker during a conversation, and which they can fall back on if the speaker contradicts him-/ herself, or if one of his/her statements turns out to be false.

Peirce and subsequent literature (i.a. Searle, 1969, 1999; Brandom, 1983, 1994; Geurts, 2019b; Krifka, 2023) focus mainly if not exclusively on assertion as causing commitments. As Beyssade & Marandin (2009, 91) formulate it, commitments have an intrinsic liaison with speech, where they break it down to the mantra "[s]ans parole, sans énoncé, pas de *commitment*." However, *parole*, or simply saying, does not necessarily mean asserting. In fact, commitments need not be necessarily caused through assertions

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[2]Geurts (2019a), for instance, also speaks of commitments to goals, or Searle (1969) about commitments to actions.

as they may also be caused *via* implications such as conventional implicatures, or presuppositions (Searle & Vanderveken, 1985; Stubbs, 1986; Katriel & Dascal, 1989; Potts, 2015; Peters, 2016; Mazzarella et al., 2018); Searle & Vanderveken (1985) also describe presuppositions as commitments that are not overt. We will focus exclusively on this relation between commitments and implications in Chapter 4.

Being relations between linguistic agents and propositions, the question arises as to how commitments differ from attitudes such as beliefs as they also describe a relation from agents to propositions. Much attention has been paid in the commitment literature to the fact that commitments and beliefs should be distinguished from one another, and it is often emphasized that the two are not the same, if not fundamentally different (Hamblin, 1970, 1971; Lyons, 1995; Beyssade & Marandin, 2009; Venant & Asher, 2015; Geurts, 2019b, 2024). With the premise that saying, or to be more precise, asserting enjoins a commitment (MacFarlane, 2011; Geurts, 2019b), Hamblin (1970, 264) writes that

> a commitment is not necessarily a 'belief' of the participant who has it. We do not believe everything we say; but our saying it commits us whether we believe it or not.

Subsequent literature such as Lyons (1995) chime in in saying that

> [a]nyone who states a certain proposition is committed to it, not in the sense that they must in fact know it or believe it to be true, but in the sense that their subsequent statements – and anything that can be legitimately inferred from their accompanying and subsequent behaviour – must be consistent with the belief that it is true. (Lyons, 1995, 254)

On this view then, a commitment need not enjoin belief nor knowledge of the content a linguistic agent commits to. Rather, its core meaning remains to express consistency with respect to previous commitments, leaving its relation to belief rather speculative. However, Geurts (2024) becomes very clear about this relation between commitments and beliefs when he says that it should be of an implicative nature.

> At first, it might seem that being committed to the truth of ϕ doesn't imply belief that ϕ, because people lie, and lying is a familiar case of commitment without belief. However, this too might be an exception that proves the rule. [...] it is plausible that commitment implies belief by default. (Geurts, 2024, §5)

This cautious implication from commitments to beliefs takes into account aspects of insincerity in conversation that involve communicative actions such as lying or deceiving (see §3.5). Anything stronger would imply that every commitment is also a belief, which not only blurs the distinction between the two concepts but, worse, equates them, a result contrary to our goal of keeping them clearly separate. If we would not do so and treat commitment as any other cognitive state such as belief, any commitment would automatically mean that the speaker always believes everything they say, which, from the addressee's perspective, would lead to a quasi-mindreading status with 100% accuracy. This touches upon another aspect where commitments and beliefs differ, namely their verifiability (more details in §3.3). Since it is highly implausible to guarantee that one can reveal someone's 'true beliefs', Geurts does not bother to consider this assumption of an implicative relation between commitments and beliefs.

Let us summarize. Commitments amount to a kind of consistency check. They are normative insofar as they impose responsibility on speakers, which is expressed in showing consistency with regard to their commitments and vouching for the propositional content for which they vouch, so to speak, even if it is – often unbeknownst to the committer – false. In addition, they serve as a kind of warrant that is automatically 'sent' to the addressees as soon as speakers undertake a commitment. Commitments thus represent social contracts on a sociological micro-level, which are regulated by language, of which assertions are the most representable case. We will see later on that this allows us to put forward the interesting hypothesis that mood in Romance can serve as a sort of grammatical reflex of (normative) commitments.

3 Distinguishing commitments from beliefs

The previous section has already anticipated some of the properties of commitments, partly in a negative definitory light, e.g. that they are not psychological states or attitudes but rather the expression of such.[3] In the following

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[3] But even saying that they are the expression of an attitude is to be treated with caution as this anticipates the assumption of Gricean Sincerity again.

section and subsections, we will shine a light on some crucial aspects that underline the different character of commitments and beliefs.

3.1   Passive vs. active uptake

One crucial distinction between beliefs and commitments lies in how agents come to hold them, namely through active or passive uptake. We will use the term *uptake* to refer to an agent's adoption or endorsement[4]. Thus, to *take up* a proposition ϕ is to be in a state where one is, in some sense, endorsing and thus bound to ϕ. Crucially, we will assume that such uptake can happen actively, i.e. consciously, or passively, unconsciously, as summarized in (1).

(1)   a.   **Active uptake**: the agent consciously endorses ϕ as true and is bound to ϕ.

      b.   **Passive uptake**: the agent does not consciously endorse ϕ but is still bound to ϕ.

Such auxiliary terms serve the purpose of explaining why cognitive states such as beliefs require active uptake but cannot be subject to passive uptake, as we will argue in the following paragraphs.

First, belief involves an attitude or cognitive state that must have undergone some sort of cognitive processing to arrive at such. That is, beliefs are the result of some prior active cognition, such as holding ϕ true by conviction (Fishbein & Ajzen, 1975), sensory information, or "indirect experience or by accepting information from a trusted or authoritative source" (Connors & Halligan, 2015, 3). Believe ϕ is to treat ϕ as true, and treating ϕ as true presupposes prior deliberate cognition to do so, or, put differently, "we believe a proposition because we have decided to believe it" (Steup, 2012, 162). In our auxiliary terms, we would say that an agent has actively taken up ϕ, i.e. (s)he consciously formed his or her belief on some pool of information, impressions, experiences etc. Even when this results in a false belief – the result of unintentionally taking into account misinformation, fake news, false premises, etc. – we still speak of active uptake. That is, if I falsely believed that the Earth is flat, I unintentionally, though actively, took up something

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[4]The term endorsement is theoretically occupied in Enunciation Theory and polyphonic linguistic theories (see Boulat, 2023 §1.2 and §1.3 for an overview). I will not adopt any definitions of these theories here and use endorsement in a loose way.

based on false information. In any case, it stands to reason to assume that belief, whether it is false or not, always involves active uptake.

Uptake of ϕ and holding a belief about ϕ should also be distinguished from each other. As mentioned before, unintentionally taking up false premises does not exclude active uptake. The formation of a belief underwent an active cognitive process, though unintentionally in the sense that one might not have an intent to form it on false premises or information. But *holding* a belief unintentionally, or by accident, would give us the impression of no uptake. However, this would contradict our previous thought that active uptake goes hand in hand with beliefs. We therefore want to claim that there is no such thing as accidental belief as the belief of ϕ cannot be dissociated with the active uptake of ϕ. To corroborate this, consider the contrast between *accidentally forming* a belief due to misinformation, which is perfectly acceptable (2), and *accidentally holding* a belief (3), i.e. not having consciously endorsed ϕ.

(2)   *Accidental uptake of belief*
       I accidentally believed that the meeting was at 3 o'clock.

(3)   *Accidentally holding a belief*
       #I accidentally believe that the sky is green.

In (2), the speaker reports on a belief that was formed on the basis of false information, implying its active uptake of the propositional content at that time; the speaker decided to believe that the meeting was at 3 o'clock but now (s)he does not any more. In (3), the present tense and phrasing suggest the possession of a belief without any uptake whatsoever, which explains the oddity of the sentence.[5] For the speaker to hold a belief, (s)he must have consciously endorsed ϕ in one way or another to treat ϕ as true. The above contrast further supports the idea that belief necessarily requires active uptake.

In contrast, commitments do not require active uptake as they may also do well with passive uptake. One can become committed to a proposition through actions, conventions, or speech acts—even without being aware of

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[5]The use of *accidentally* in (3) suggests that the speaker does not believe that the sky is green which already contradicts that one believes that the sky is green. In (2), the speaker is aware about their false beliefs. In any case, (3) boils down to a lack of uptake.

the propositional content involved (Geurts, 2024, see also §3.4). As Geurts puts it, "it is entirely possible to engage in the game of sharing and acting on commitments without knowing one's commitments or others'" (2019a, 15). I take 'not knowing one's commitments' to ϕ to allow for the absence of any conscious endorsement of ϕ. If this is true, this makes passive uptake of commitments plausible. In the following contrast between (4-a) and (4-b), we see that (4-a) is fully acceptable after having signed a rental lease without understanding its terms, or not having read the lease at all and ignoring some unfavourable clauses for the tenant. In this case, it stands to reason to say that there is a complete lack of active uptake of ϕ as it might have gone by at the expense of the speaker's unawareness or ignorance. Instead, the speaker has undertaken passive uptake, as the speaker can plausibly utter (4-a) to express that they are bound to ϕ even without consciously endorsing ϕ.[6] On the other hand, it is hard to make the same case for beliefs, which explains the infelicity of (4-b).

(4)   *Passive uptake*
   a.   Through my carelessness, I am now committed to paying 13 months of rent.
   b.   #Through my carelessness, I now believe that I pay 13 months of rent.[7]

In sum, we can say that whereas commitments can be incurred passively, beliefs resist passive uptake and require active uptake. This contrast, rooted in the kind of uptake, highlights an important asymmetry between beliefs as cognitive and commitments as non-cognitive states.

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[6]Another everyday example of passive uptake of commitments is the so-called *Abofalle* ("subscription trap"), where a user may accidentally commit to a paid contract by clicking a button on a webpage or failing to read the fine print of a contract. In such cases, the individual is legally and socially held accountable (read: committed) even without intending to be, or believing they were doing so. This further underscores the distinction between belief and commitment: the latter can be incurred unintentionally and without cognitive endorsement and underlines the legal character of commitments that beliefs and similar cognitive states do not have.

[7]Here, *believe* should not be conflated with colloquial uses such as "I assume / I guess", which often expresses hedging and thus would render the sentence more felicitous in this context. This is not the reading we are after.

3.2   Communicative intentionality

Commitments and beliefs also differ in terms of intentionality in a communicative sense. Communicative intentionality refers to the speaker's deliberate aim to convey a message and have it understood as such by a hearer. In common views, speech acts enjoin intentionality, in that speakers typically mean to express certain attitudes (beliefs, desires, commitments; Bach & Harnish, 1979, see also §1 in MacFarlane, 2011 for an overview). Recently, there have been quite some dissenters of this view (MacFarlane, 2011; Geurts, 2019a,b; Krifka, 2023). For instance, through conventional actions or unreflective speech acts I may, accidentally, commit to ϕ by asserting ϕ without any intent whatsoever to become committed to ϕ or let alone impart ϕ to the addressee. These may be cases where I accidentally tell a secret, thereby becoming committed to ϕ such that the addressee now has verifiable evidence of me being committed to ϕ which makes me accountable by other agents in discourse, even though I did not intend to make public what I also believe. Thus, commitments may also be non-intentional in this sense. I can commit to ϕ without having a communicative intention to commit to ϕ, i.e. by committing to ϕ by accident (see (4-a) in §3.1). Put differently, one can become committed to a proposition beyond one's control, whereas believing beyond one's control would turn out to be impossible.

Krifka (2014, 2023) provides yet another case example where an intentional view of assertions which trigger commitments, do not have a primary intention of expressing beliefs:

(5)   a.   Believe it or not, I did not cheat on you.
        b.   Es ist   mir egal, ob   du   mir
              it be.3P.SG.IND me equal whether 2P.SG.NOM 2P.SG.DAT
              glaubst,   aber du bist   mein Bruder.
              believe.2P.SG.IND but   you be.2P.SG.IND my   brother
              'I don't care whether you believe me, but you are my brother.'
              (*German*, Krifka, 2023)

Krifka (2023, 118) explains, as initially noticed by Searle (1969), that "it is not contradictory for the speaker to officially declare disinterest in whether the addressee believes the proposition", as expressed in (5-a) or (5-b) "as the speaker may be interested in committing to a proposition just for the record". On the other hand, the following example is odd.

(6)   #Du bist   mein Bruder, aber beklage   dich nicht bei
       you be.2P.SG.IND my   brother but lament.IMP REFL not   at
       mir,   wenn das nicht stimmt.
       1P.SG.DAT if   that not   be.true.3P.SG.IND
       'You are my brother, but don't complain in case that is not true.'
       (*German, Krifka, 2023*)

Krifka (2023, 118) briefly remarks that the oddity of (6) "does not follow
from the intentional view in a straightforward way". To add a bit more to
that, (6) is odd for a commitment-based account because the speaker imme-
diately shifts away responsibility in the future while at the same time taking
responsibility for the statement made. This social dimension is easily pro-
vided for commitments being a normative notion as commitments "persist
up to the point at which they are withdrawn" (Geurts, 2019b, 5). Beliefs lack
this normative dimension.

3.3   Verifiability

Venant & Asher (2015) talk about the possibility to distinguish commit-
ments from beliefs in terms of their verifiability. Their general claim is that
only commitments, next to being public, are verifiable, whereas beliefs are
private and hidden, and thus unverifiable (see also Beyssade & Marandin,
2009 for a similar view). To elucidate their point of view, the authors refer
to the relation between (uttered) content, and commitment and belief in dis-
course, respectively. Let us start with the relation between uttered content
and beliefs. For this, we will depart from the simple scenario of a speaker S
asserting a sentence ϕ to an addresse A. Assuming that S and A stand in a
neutral relation to each other, upon receiving S's statement, A will normally
assume that S also believes ϕ. The stress is on *normally* because such an as-
sumption on the addressee's part is driven "under strong assumptions like
Gricean Sincerity that cannot be assumed to hold of conversational partici-
pants in general" (Venant & Asher, 2015, 598). Due to this very restriction
that this assumption may not be generally applicable,Venant & Asher make
clear that the relation between uttered speaker content and belief on the part
of the speaker from the addressee's perspective is not as straightforward as it
seems. In fact, Venant & Asher point out a caveat for the addressee to estab-
lish a clear link between a speaker's uttered content and the same speaker's
belief. As they continue, this is mostly driven by the general realisation that

"[p]eople lie and exaggerate for various reasons". Such a realisation then leads an addressee to tread with caution and consider the relation between content and belief to be uncertain, thus thinking that it may not always be the case that whenever S utters ϕ, S also believes ϕ. This is what it boils down to when Venant & Asher allude to verifiability. In our simple example above, A cannot verify with absolute certainty that S believes ϕ after S asserted ϕ. Rather, A's assumption can only reach as far as an act of goodwill where A considers S trustworthy enough to confidently assume that S also believes ϕ. But even such a trust-based confident assumption does not guarantee absolute certainty to A that S believes ϕ. Thus, the statement that S believes ϕ will always hang by a thread of trust on the part of A, while never being objectively verifiable. Thus, even with a best-case scenario where S believes ϕ, certainty remains a matter of gradability due to A deeming it highly probable that S believes ϕ. In any case, Venant & Asher conclude that "the link between contents of utterances and belief [remains] uncertain".

If we think of any attempts of a hot fix to strengthen Gricean Sincerity, it does not bring us any significant advantages. On the contrary, it would completely ignore important aspects of everyday conversation. For instance, it would bear the unwelcoming and absurd consequence that all addressees are naïve about all speakers believing everything they say. Even worse, such a view denies the reality of everyday conversation among humans that enjoins various levels of cooperation of conversational participants, reflected through sincere and insincere speakers that we may encounter. More concretely, a speaker that always believes what (s)he says would never be able to lie (more on lying in §3.5). Put differently, beliefs always carry a certain *caveat emptor*[8] — that is, the risk on A's part of trusting S and, hence believing what S believes, namely ϕ. Any assurance A has stems solely from their

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[8]*Caveat emptor* (Latin for 'let the buyer beware') is a principle from Roman and common law that places the burden of due diligence on the buyer. In the context described here, it metaphorically captures the 'epistemic risk' the addressee A takes in trusting that speaker S genuinely believes what they say. This also becomes apparent if we follow Geurts (2024) who argues that commitments merely imply beliefs. While risk exists for both parties – especially if the belief turns out to be false – these risks must be treated differently. While S bears the risk of losing his or her face, trustworthiness, social standing etc. in front of A when his or her commitments don't match with his or her beliefs, A assumed a risk in deciding whether to 'buy' S's (implied) belief *qua* commitment, a decision that depends solely on S's perceived trustworthiness.

estimation of *S*'s trustworthiness; belief ascription relies on the assumption of sincerity. In this context, *A* 'buys into' *S*'s belief at their own risk. This risk may be mitigated by *A*'s knowledge about *S*'s reliability, social standing, trustworthiness etc.

In sum, then, verifiability of beliefs turns out to be a foggy swamp for conversational participants in general, and for the addressee *A* in particular. In contrast, this *caveat emptor* vanishes entirely when we shift from belief to commitment. As soon as *S* asserts ϕ, *A* automatically receives a warrant — not for *S*'s belief, but for *S*'s commitment to ϕ. This commitment is public, normative, and comes for free with the act of assertion itself, independent of *S*'s sincerity or cognitive state. *A* thus gains full clarity: *S* is now on the hook for ϕ and can be held accountable for any subsequent proposition that conflicts with it. *S*'s act of stating ϕ secures their commitment to it, providing *A* with a standing entitlement to demand coherence in *S*'s discourse. On this view, commitments are not a matter of whether I can trust a speaker or not, but rather whether I can hold him or her accountable for whatever follows afterwards and displays any inconsistency. In other words, commitments are pragmatic facts that do not depend on my social knowledge or trust for the speaker. We can refer here once again to Lyons (1995, 254), according to whom anyone stating a proposition "is committed to it, not in the sense that they must in fact know or believe it". Rather, committing to a proposition means that they must display consistency with respect to the proposition they have just committed to. For commitments are not a mental state and thus independent of belief, it does not matter whether the speaker is sincere or insincere (De Brabanter & Dendale, 2008, 8). Or, as Searle (1999, 144) puts it: "When I say something and I mean it, I am committed to the truth of what I say. And this is so whether I am sincere or insincere." This rules out sincerity as a predeterminant factor for having a commitment, as it simply follows from an assertion, regardless of whether one believes or is sincere about what one has just asserted.

On the bottom line, commitments are pragmatic facts that follow from the speech act itself, not from some inference of a sincerity maxim. Beliefs, on the other hand, do not follow in such a way and are subject to assumptions of sincerity maxims. Given these pragmatic facts, commitments are verifiable, whereas beliefs are not due to uncertainty.

3.4   Closure under entailment and stacking

Geurts (2024) highlights that principles from doxastic logic pose challenges for a theory of belief. One such challenge is that such a doxastic logic tends to an idealization of individuals possessing "superhuman logical capacities" (Stalnaker, 2006, 172), while the same proponents acknowledge this limited applicability. We will look at two principles, namely closure under entailment and stacking and see that these principles are straightforwardly applicable to commitments, but not as easily to beliefs.

Starting with closure under entailment, Geurts (2019b,a, 2024) argues that a hallmark of commitments treated as a normative state is their straightforward applicability to this principle. We adopt the definition from Geurts (2024) in (7).

(7)   *Closure under entailment*
       If a is committed to ϕ, and ϕ entails ψ, then a is also committed to ψ.

Following this principle, if I commit to ϕ = ⟦Mary is a bachelorette⟧, I also become committed to ψ = ⟦Mary is unmarried⟧ because ϕ entails ψ. Now assume that the speaker is currently talking about Mary's marital status. Then, saying (8) turns out contradictory because the speaker would have inconsistent commitments as (s)he would be committed to both ψ and $\neg\psi$, the former being the entailment of ϕ, i.e. the first clause in (8), which *qua* definition in (7) would enjoin a commitment to ψ. As a result, (8) turns out to be odd.

(8)   #Mary is a bachelorette, and she is married.

Geurts (2019b, 2024) stresses that, as a matter of fact, an agent may not realise their commitments to ϕ, let alone their commitments to its entailment(s), and that by undertaking such a commitment, "a speaker *ipso facto* undertakes any further commitments flowing from it" (Geurts, 2019b, 5). This non-realisation does not alter the fact that one is nonetheless committed to the logical entailment of ϕ. To further underline the idea of non-realisation and commitments, assume a scenario where I am crossing the Polish–Russian border outside of official checkpoints. In doing so, I would unconsciously subject myself to the legal jurisdiction of the country I enter, along with the full scope of its laws and regulations including, for example, the risk of a prison sentence for unauthorized border crossing, even in the

absence of prior awareness (Geurts, 2019a, 5). In other words, in such a scenario, I would be held responsible regardless of my knowledge or belief of Polish or Russian law that applies in the respective country. Ignorance does not save me from being held legally accountable, which is also succinctly reflected in the principle of Roman law: *ignorantia iuris neminem excusat* – ignorance of the law excuses no one. This already suggests that knowing or believing, on the one hand, and commitment, on the other hand, are fundamentally different (see also Geurts, 2024, §5) in terms of closure under entailment.

Applying the same principle to beliefs becomes less plausible and is harder to argue for, and Geurts concludes that it is simply too strong, as he argues in the following:

> Given that, in a possible-worlds framework, belief is defined as universal quantification over worlds (*x* believes ϕ iff ϕ is true in all worlds accessible to *x*), it necessarily follows that beliefs are closed under entailment. It isn't hard to see that this has unpalatable consequences. It implies, for example, that since mathematical truths hold in all worlds, everyone who believes anything at all inevitably believes that the Pythagorean theorem is true. But sadly, it is an all too familiar fact about the human condition that we don't believe everything that is entailed by what we believe. (Geurts, 2024, §3.3.2)

A further reason why commitments are closed under entailment, while beliefs are not, emerges if we take the addressee's (*A*'s) perspective and return to the distinction between verifiability of commitments and uncertainty about beliefs, as discussed in §3.3. On this view, when *S* asserts ϕ, their commitment to ϕ is immediately verifiable, and since ϕ entails ψ, they are thereby also committed to ψ, a commitment that is likewise verifiable by virtue of the original assertion, see (8). Beliefs, in contrast, are not verifiable and are subject to uncertainty. Even if *A* has sufficient certainty or trusts *S* such that one has reasons to believe that *S* believes ϕ, *A* can still not verify it, let alone infer with equal confidence as one would do for commitments, namely that if *S* believes ϕ, *S* also believes ψ, if ϕ entails ψ. Thus, if someone asserts and thereby commits to ⟦Mary is a bachelorette⟧, we can directly infer their commitment to ⟦Mary is unmarried⟧, as done in (8), regardless of whether they recognise or actively endorse the entailment, given the legal nature of commitments that beliefs do not have.

Another aspect where commitments and beliefs differ is what Geurts (2024) calls stacking, as defined in (9).

(9)   *Stacking*
       If *x* is committed to ϕ, then *x* is committed to *x* being committed to
       ϕ.

(9) says that whenever if I am committed to ⟦Mary is a bachelorette⟧, I
am committed to me being committed to ⟦Mary is a bachelorette⟧, I am
committed to me being committed to me being committed to ⟦Mary is a
bachelorette⟧ and so forth. In other words, (9) suggests infinitely many or
unbound commitments (Geurts, 2024). This cannot be said of beliefs as
they are cognitive in nature and give rise to several issues. One of them
that Geurts (2024) points out is that unbounded/ iterated belief should at
best be treated as an idealisation or a formally convenient but psychologi-
cally implausible model that abstracts away from the cognitive limitations
of (human) speakers (Stalnaker, 2006, see also Geurts, 2019a; Krifka, 2023).
In practice, speakers rely on heuristics, assumptions, and limited iterations,
often just two or three levels deep, i.e. *I know that you know that* ϕ[9], thus
restricting its iteration to a certain limit (Geurts, 2024). Like many concepts
in linguistics and philosophy – perfect rationality, infinite grammars, logical
omniscience – it simplifies messy cognitive realities in order to make formal
reasoning possible. What it boils down to, as Geurts (2024) concludes, is
that the core problem might not even be the iteration of beliefs itself but a
foundational problem of what beliefs actually are conceptually.

3.5 Lying and insincerity

Another case where the difference between beliefs and commitments be-
comes fundamentally apparent are lies. The following adapted example from
Viebahn (2021) should serve as a starting point.

(10)   *Context: A dying woman asks a doctor whether her son is well. The
        doctor saw the son yesterday, when he was fine, but knows that he was
        killed shortly afterwards. The doctor wants to spare the dying woman
        the news of her son's death. The doctor utters:*
        a.   He's fine.

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[9]Geurts (p.c.) calls the problem that unbounded belief or infinite iteration of beliefs run
into *psychological implausibility*.

Intuitively, one would plausibly assume through context in (10-a) that the doctor is insincere towards the dying woman and is not telling her the truth because she says something she does not in fact believe. Worse still, despite her knowledge that the woman's son is dead, the doctor says exactly the opposite what she knows by asserting 'He's fine'. In fact, (10-a) is a textbook example of lying in the classical sense: The speaker believes $\neg\phi$ but asserts ϕ (Isenberg, 1964 *et seq.*). As mentioned earlier, a speaker asserting ϕ causes her to become committed to ϕ (Geurts, 2019b), and that a commitment implies a belief is a default (Geurts, 2024, §5). Lies serve as exceptions to this general rule, effectively breaking the implication-relation between commitment and belief. This disruption is plausible, as the relationship between commitment and belief is not rigid, its merely implicative nature suggests a degree of flexibility. Going back to Viebahn (2021), his account of lying builds on the idea of precisely this weak relation between commitments and beliefs. He thus suggests the following definition of lying.

(11)   *A Commitment-Based Definition of Lying*
        A lies to B if and only if there is a proposition ϕ such that:

   a.   *A performs a communicative act C with ϕ as content;*
   b.   *with C, A intends to communicate ϕ to B;*
   c.   *with C, A commits herself to ϕ; and*
   d.   *A believes that ϕ is false.*

Does (10-a) qualify as a lie according to the definition in (11)? In (10-a), we observe that the doctor intends to communicate $\phi = [\![\text{the son is fine}]\!]$ to the dying woman *qua* assertion of ϕ. Asserting ϕ causes the doctor's commitment to ϕ, as per (11-b). We further learn through context that the doctor believes $\neg\phi = [\![\text{the son passed away}]\!]$, fulfilling (11-d). Thus, the doctor fulfils all criteria for Viebahn's definition of a lie. Based on (11), the doctor asserting (10-a) is lying.

   The relevant point here is that one can have a commitment to a proposition ϕ whilst believing the exact opposite of ϕ, i.e. $\neg\phi$. The fact that it is possible, especially since lying is a natural part of interpersonal communication, brings to light some interesting points. Firstly, and most obviously, it shows that commitments and beliefs do not in fact always have to go hand in hand, which once again underlines that they are fundamentally different notions that have to be separated. The speaker vouches for the truth

of ϕ *qua* assertion, but believes $\neg\phi$. Secondly, the case of lying shows that, for instance, believing $\neg\phi$ does not have a deterministic force in that it does not automatically precludes a speaker from committing to the opposite what (s)he believes. In other words, just because the doctor believes $\neg\phi$ does not mean that she will become committed to $\neg\phi$; even though by default, this would be the case if we assume the doctor to be a sincere person. But even when considering sincerity, it is not a deterministic mechanism that forces a speaker to commitment to ϕ, if the speaker believes ϕ.

Making a commitment does not hinge on someone's beliefs, yet alone follows some automatism based on having a belief. Krifka (2014) gives an interesting example (12) that we can exploit for the case of lying.

(12)   Believe it or not, but I did not cheat on you.

Note here that due to the lack of context, (12) cannot say anything about the speaker's actual beliefs of $\neg\phi = \llbracket$the speaker did not cheat on the addressee$\rrbracket$. The only verifiable fact is that the speaker vouches for the truth of ϕ, whether the speaker also believes ϕ, we do not know. It could be equally plausible that the speaker did cheat on the addressee which means that the speaker believes ϕ, or it could be that the speaker believes that she did cheat on the addressee, thus believing $\neg\phi$. Whether the speaker uttering ϕ also believes ϕ or not is a matter of trust on the part of the addressee or whoever evaluates the speaker's statement. Again, we would be dealing with the implicative relation between commitments and beliefs. That is, if the speaker is trustworthy and would, for instance, be subject to a smear campaign, the addressee would have reasons to believe that the speaker committed to $\neg\phi$ also believes $\neg\phi$, possibly based on the facts that ϕ is not true and both speaker and addressee are well aware of it. Assuming the other case that the speaker is a known cheater and has already done so several times, chances are low that the speaker also believes ϕ. In any case, as things are standing in (12), we might encounter cases where we will never know what the speaker believes, which makes it impossible to verify the speaker's belief. But for instance, if it turns out that the speaker did cheat on the addressee, it would prove that the cheater was well aware and thus must know or believe ϕ which would fulfil the criteria for lying laid out in (11).

In sum, lies represent a compelling case for understanding the distinction between belief and commitment. When we (indirectly) have access to the speaker's cognitive states — or at least plausible reasons to think they

believe the opposite of what they assert — we can clearly observe that commitment and belief do not necessarily align. This discrepancy highlights that believing ϕ and being committed to ϕ are not necessarily the same thing. There is an asymmetry: while lying shows that commitment to ϕ does not require belief in ϕ, the act of commitment implies belief. Once someone is committed to ϕ, it is generally taken that they believe ϕ – even if, in the case of a lie, they do not – *qua* implication, but that is, as we have seen in §3.3, a matter of trust.

4 The term *commitment* in the mood literature

The idea of linking mood with the term *commitment* has been popular in the past decades and is quite ubiquitous (Rivero, 1971, 1979; Lleó, 1979; Bell, 1980; Borrego et al., 1986; Bustos, 1986; Palmer, 1986; Hengeveld, 1988; Farkas, 1992; Mejías-Bikandi, 1998; Giannakidou, 1999; Grande Alija, 2002; Farkas, 2003; Siegel, 2004, 2009; Portner & Rubinstein, 2013; Giannakidou, 2014; Giannakidou & Mari, 2021; Romero, 2017, 2024; Silk, 2018). However, what stands out quite prominently is that most if not all accounts of treating mood in relation to the notion of *commitment* seem to follow one of the two patterns: Either they remain fairly vague about what they mean by *commitment*, or they pursue a mentalist view and treat commitments as a cognitive notion that is not in line with the views in the traditional literature on the term *commitment* itself (e.g. Hamblin, 1970; Searle & Vanderveken, 1985; Brandom, 1994; Lyons, 1995; Clark, 1996 i.a.), let alone take them as a reference. Treating the notion of commitments as cognitive, it is even more surprising that it does not fit within the prominent and more recent commitment literature that stresses commitments as a non-psychological notion (Hamblin, 1970; Searle & Vanderveken, 1985; Brandom, 1994; Lyons, 1995; Clark, 1996; Gunlogson, 2001; Tuzet, 2006; Clark, 2006; Beyssade & Marandin, 2009; Geurts, 2019b, 2024; Krifka, 2023). While it is intuitively correct to state that there is a connection between commitments and beliefs (Geurts, 2019b, 2024), there are two suggestive interpretations arising from this view, namely that the indicative signals a commitment in the cognitive sense, and the indicative signals a commitment in the normative sense. However, we have seen before that commitments and beliefs are not to be treated as one and the same thing, but it is precisely the case in the mood literature that this happens so, as we will see in the following sections. Further-

more, the treatment of commitment as a cognitive notion or attitude such as belief or knowledge, not only dilutes further endeavours to treat them as two independent notions, but also preclude the hypothesis that mood could be driven by one of the two distinct notions, namely commitment in the normative sense, or a cognitive notion that involuntarily bears the label *commitment*.

In the following, we will predominantly argue that indicative does not signal a belief or knowledge, but rather a commitment in the sense of a linguistic agent vouching for the truth of ϕ. While this does not prevent the possibility to link indicative with beliefs, we will see that they will take a backseat in explaining mood. Here, we will treat but two prominent and well-thought out theories of mood by Schlenker (2005) and Giannakidou & Mari (2021, to appear), where the latter is even more sophisticated and detailed such that it will receive our principal attention.

4.1   Schlenker (2005): An unfilled role for *commitment*

Schlenker's account of mood is etiological as it argues that the indicative "introduces a presupposition" (Schlenker, 2003, 278) of a discourse agent's belief, which can also be understood as an addressee-oriented account. The role of the indicative, then, is to signal a discourse agent's belief, whereby said discourse agent does not necessarily have to coincide with the speaker. As we will see shorty, we will encounter a problem that Schlenker (2005) fully acknowledges, namely the problem of a speaker's sincerity. That is, if the indicative triggers a belief, this would exclude any instance of lying from an addressee's perspective.

Let us first lay out Schlenker's account in more detail. Here, indicative mood is treated as a presupposition trigger of a world pronoun w that lies in the Context Set (CS) of a salient individual x at a relevant evaluation world w^*. Thus, sentences with an indicative are defined only for those possible worlds w where $w \in CS_x$ at w^*. The subjunctive does not trigger this presupposition (Schlenker, 2005, 299).[10] This represents the core of his theoretical

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[10]Manfred Krifka (p.c.) pointed out to me that if the subjunctive does not trigger such a presupposition, then there is still a possibility that $w \in CS$, but it is just not enforced. Accordingly, $w \notin CS$ would only be brought about *qua* pragmatic implicature. This would leave open the possibility that despite the subjunctive, w could still be in the CS of x, or in

machinery. In fact, Schlenker is quite aware that his theory faces problems for cases in which x is insincere. To illustrate this in Catalan, let us assume (13) where Joan would insincerely assert (13-a).

(13)   *Context: Joan is aware that Maria is not a Catalan police officer (Mosso) but says:*

    a.   La Maria és   Mosso.
        the Maria be.3P.SG.IND Mosso
        'Maria is a Mosso.'
        (*Catalan*)

In Schlenker's account, this would make the unwelcoming prediction that the indicative triggers a $w \in CS_{Joan}$; (13-a) is only defined for those worlds for which $w \in CS_{Joan}$ holds at w^*. If we take the standard view of lies as asserting ϕ while believing $\neg\phi$, then w is not supposed to be in Joan's CS in (13-a). As Schlenker (2003) points out, this problem arises for CCs of verbs of assertion such as *dire* in French in (14) where we may also assume a context in which Jean is well aware that it does not rain but he asserts (14) anyway.

(14)   Jean dit   qu'il   pleut.
       Jean say.3P.SG.IND that-3P.SG.NOM rain.3P.SG.IND
       'Jean says that it rains.'
       (*French*)

To capture the effect of lying, Schlenker suggests "to bite the bullet and state that there are simply two notions of Context Set" (Schlenker, 2005, 298), *viz.* CS and CS', which are used when needed. With this makeshift solution, w would be in Joan's CS but not in his CS'. However, Schlenker notices the danger of a multiplication of CSs *ad libitum*, which would make the analysis 'contentless'. Schlenker does not pursue this issue further, leaving us with unresolved problems such as those illustrated in (13-a) and (14).

Another aspect that we want to address is the use of the term *commitment* which is only scarcely used by Schlenker; three times, to be precise. Based on a preliminary note by Farkas (2003) that the indicative might in-

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other words, x could still believe that ϕ is true despite the sentence with the proposition ϕ carries a subjunctive.

dicate speaker commitment in some Romance languages (p. 17), Schlenker is sympathetic to the idea that "the indicative almost always has something to do with the expression of **someone's** commitment" (Schlenker, 2005, my emphasis, SB). The emphasis on someone is insofar relevant that the spectrum of commitment assignment is much larger in Schlenker (2005) than it is suggested for mood in Farkas (2003), as it may extend to third parties that do not coincide with the speaker. This, in fact, is reflected in Schlenker's account when he states that "the indicative marks an assertive act on somebody's part, though this person need not be the speaker". However, we cannot find a definition of the notion of *commitment* in his account. A closest take on how it can be interpreted is based on the following passage:

> The default-based analysis can also explain why (i) the subjunctive does not appear to have a unified semantics, while by contrast (ii) the indicative almost always has something to do with the expression of someone's commitment (Farkas 2003). The analysis is developed by assuming that the indicative introduces a presupposition on the value of a term w, of the form $w \{CS(x', t', w')\}$, indicating that the term w denotes a world that lies in the 'Context Set' of individual x' at time t' in world w', i.e. that it is compatible with what x' believes or says at t' in world w'. (Schlenker, 2005, 271)

Even though Schlenker suggests that commitment is expressed with the indicative, he does not make clear what a commitment is, let alone distinguish it from cognitive attitudes such as beliefs. The fact that there is no imminent separation between cognitive attitudes and commitments suggests that commitment will be either treated interchangeably with beliefs, or, and this would be a fairer treatment, that commitment as an independent notion separate from beliefs is simply not there and lacking. As we can see for the case of insincerity, this does not come without problems. A potential fix to Schlenker's account would be therefore to treat (i) beliefs and commitments as two separate notions. This is, in one way or another, anticipated by Schlenker's initial suggestion to think of two context sets. However, in this case, one would not have to worry about two context sets but still assume one where its members are not only beliefs but also commitments (see Cohen & Krifka, 2011, 2014; García-Carpintero, 2015 for such an idea). This would bring us to (ii), namely reconsider the question whether the indicative signals belief of or a commitment to ϕ. If we look again at the case of

lying, a more promising path would be to side with commitments this time as these, other than beliefs, would be immediately verifiable such that the indicative would serve as a grammatical reflex of said commitment, unlike beliefs, that cannot be verified.

In sum then, Schlenker's sophisticated and promising account of mood treats indicative as a reflex of some individual *x*'s belief. Despite the sporadic use of commitment, its role is underdeveloped and undefined, thus leaving us with an unsatisfying use of the term and its role for capturing verbal mood.

4.2   Giannakidou & Mari (2021): A divergent ontology of *commitment*

Giannakidou & Mari (2021) propose a theory of mood that is almost exclusively concerned with mood choice in argument clauses where a central idea of their account is their link between commitment and verbal mood.[11] Principally, they argue that the indicative is "the mood of truth" (2021, 188) that functions as an "indicator" (2021, 140) or "signal" (2021, 192) of veridical commitment. In ongoing work, the authors continue to emphasise that "veridical commitment is expressed with indicative mood" (Giannakidou & Mari, to appear, 10). The subjunctive, on the other hand, expresses that a linguistic agent "is not committed to the truth of ϕ but rather expresses a nonveridical stance" and displays "epistemic uncertainty" (Giannakidou & Mari, 2021, 45). Thus, the subjunctive displays a lack of veridical commitment, whereas the indicative embodies veridical commitment. Principally, we will focus on their conceptualization of the term *commitment* and will cast light on their ontology in Giannakidou & Mari (2021) and Giannakidou & Mari (to appear) and how it differs from commitments in the normative sense.

The first observation is quite similar to that we made with Schlenker (2005), namely that we do not find an explicit definition of the term *commitment* proper in Giannakidou & Mari (2021, to appear). Instead, the authors introduce what we might call two types of commitments, that are cen-

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[11]According to Giannakidou & Mari (2021), indicative CCs are embedded under veridical (*say, believe, know*) and subjunctive CCs under nonveridical attitudes (*want, order*).Curiously, we can neither find a separate (non-)exhaustive list of (non)veridical verbs in Giannakidou & Mari (2021), nor in Giannakidou & Mari (to appear).

tral to their account: veridical and subjective veridical commitment (Giannakidou & Mari, to appear, 10); we will use subjective and subjective veridical commitment interchangeably here. Veridical commitment is used as an umbrella term for both veridical and subjective commitment, while of course, veridical and subjective commitment have distinctive features. The distinction between veridical and subjective depends on whether the so-called commitment is grounded in an epistemic or a doxastic attitude, respectively. (15) provides the definitions offered by Giannakidou & Mari (2021; to appear) for these two notions.

(15)   a.   *Veridical commitment*
              A linguistic agent *i* is veridically committed to a proposition ϕ
              iff *i* knows ϕ. [my emphasis, SB]
        b.   *Subjective (veridical) commitment*
              A linguistic agent *i* is subjectively committed to a proposition
              ϕ **iff** *i* believes ϕ to be true. [my emphasis, SB]

A crucial aspect that we should concern ourselves with based on (15) is Giannakidou & Mari's ontology of commitment. Apart from being divided into epistemic and doxastic commitments, we can clearly deduce that their idea and use of the term *commitment* is ontologically diverging from Hamblin (1970) and subsequent literature (Lyons, 1995; Gunlogson, 2001; Geurts, 2019b; Krifka, 2023). As previously discussed in §2, commitments are seen as a normative state, and not a cognitive state, while any (veridical) commitment defined in (15) is clearly not a normative, but a cognitive state. This is also underlined by the biconditional character of the definitions in (15-a) and (15-b). That is, if a speaker believes ϕ, (s)he has a subjective commitment to a proposition ϕ, and if the speaker has a subjective commitment to ϕ, (s)he believes ϕ; the same pattern applies to knowledge. Belief and knowledge and veridical/subjective commitments are thus amalgamated into a cognitive attitudinal state, as also explicitly emphasized in Giannakidou & Mari (to appear, 9, my emphasis, SB): "veridical commitment to truth is an **attitudinal state** akin to knowing". Hence, veridical commitments are cognitive attitudes and have nothing to do with normativity whatsoever. As they stand, they appear to be circumscriptions of cognitive attitudes. Again, we are left with the conclusion that commitments are not a separate notion from belief or knowledge.

In their defense, Giannakidou & Mari (to appear) make no secret of the fact that their idea of *commitment* is different from others when they cleary state that

> [t]here are other recent uses of the word commitment in the seman-
> tics/ pragmatics literature. Krifka (2015) talks about commitment
> "modelled as a set of propositions, containing the propositions that
> are publicly shared by the participants" [...] Krifka's commitment cor-
> responds to common ground assumptions, and the goal of speech acts
> is to "change a commitment state" [...].

First of all, I would like to stress that adopting a term such as *commit-ment* and defining it to one's liking is not a problem *per se*. However, do-ing so demands a fair distinction from alternative conceptualizations, par-ticularly when the term is used by a large majority of scholars dating back to more than 50 years ago (Hamblin, 1970; Lyons, 1995; Gunlogson, 2001, 2008; Krifka, 2014; Geurts, 2019b) that quite consistently maintains what commitments are and what they are not. The quote above presents a num-ber of problems. Firstly, saying that commitments are sets of propositions is a misnomer at best and plain wrong at worst. Commitments are not sets of propositions; rather, sets of propositions constitute what Krifka calls com-mitment states. Here is the complete excerpt from Krifka (2015) that Gi-annakidou & Mari discuss: "The fundamental notion of the model is the **commitment state, modeled as a set of propositions** [...] shared by the participants" (Krifka, 2015, 328 [my emphasis, SB]).[12] Secondly, while less relevant to the authors for their project, their brief remark on recent uses of *commitment* underplays the actual and decisive characteristic of commit-ments by Krifka and other proponents of a normative take on commitments that actually distinguishes itself from Giannakidou & Mari's veridical com-mitments, namely their non-cognitive nature. We find several definitions of commitments in Krifka's work. For example, he explains that a linguistic

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[12]This set consists of either bare propositions or commitments to propositions (Cohen & Krifka, 2011, 2014; Krifka, 2022), as Krifka (2022, 15) equivocally notes that a "public commitment for the truth of a proposition [...] can be expressed by a proposition as well, the proposition that the speaker guarantees for the truth of the asserted proposition" (see §2).

agent undertaking a commitment is "responsible for the truth of a proposition" (Cohen & Krifka, 2014, 48) or "vouching for the truth of the proposition" (Krifka, 2022, 96). Thus, what crucially distinguishes the idea of commitments from those by Giannakidou & Mari (2021, to appear) is that they are normative, not cognitive. As we will see in §5.1, the comparison between (normative) commitments and veridical commitments in terms of mood licensing will give rise to assume that the normative view could even prove to be a better candidate to capture mood.

In sum, then, Giannakidou & Mari present the concept of commitment in a cognitive light. In addition, their conceptualization of commitment has nothing to do with normativity. In fact, their veridical and subjective commitments are another term to describe belief or knowledge. On this view, veridical and subjective commitments are cognitive attitudes. This does not come without consequences for a propery treatment of mood, as we will see in §5.1.

5   Verbal mood: commitment-bearing, not belief-revealing

5.1   Issues with cognitive accounts: are normative alternatives better?

The importance of the distinction between normative commitments and commitments defined *qua* cognitive attitudes is insofar important to say as such a distinction does not come without consequences, especially when Giannakidou & Mari claim that indicative signals a commitment, whereas subjunctive signals a lack thereof. Looking again at the ontological schisma of commitments being normative or cognitive, this has fundamental consequences for the prediction of mood. (i) Commitments understood as a normative notion would say that the indicative would signal that someone vouches for the truth of ϕ, but wold not necessarily signal that someone knows, nor believes ϕ, and if so, only indirectly. Indirectly insofar because, as Geurts (2019b) says, beliefs would only be implied by the (normative) commitment that the indicative would trigger. On this view, the relation between beliefs and (indicative) mood would be weakened to an indirect relation. In contrast, Schlenker (2005) or Giannakidou & Mari (2021, to appear) would predict that the indicative signals a cognitive attitude of some linguistic agent. Let us for now call the claim that indicative signals a commitment in the normative sense a (preliminary) normative account for mood,

whereas the account that the indicative signals a cognitive state, a cognitive account. We summarize the two predictions below in (16).

(16)   a.   *Normative account of mood:*
              The indicative signals that some linguistic agent *i* vouches for the truth of ϕ.
        b.   *Cognitive account of mood:*
              The indicative signals that some linguistic agent *i* believes or knows ϕ.

As shown earlier in §2, we treat commitments and beliefs as two distinct notions. This distinction not only motivates the proposal of a normative account but also opens the door to further discussion of the ramifications of interpreting the indicative as a marker of either cognitive or normative states. In the following, we will show in more detail what problems arise with a cognition-based account that can be more easily circumvented with commitments in the normative sense, as defined in §2.

5.1.1   Closure under entailment

Cognitive accounts such as that of Giannakidou & Mari involuntarily run into the issue that closure under entailment brings about (see §3.4) when they describe indicative signalling subjective or veridical commitment. This would have the consequence that every instance of indicative would mean that the speaker also believes or knows what the proposition carrying the indicative entails.[13] This would have palpable consequences if we take the issue of closure under entailment seriously. While assertion and indicative are not isomorphic – a point I fully agree on with Giannakidou & Mari (2021) – the indicative is always used in assertions (Terrell & Hooper, 1974; Quer, 1998). That being said, imagine the following assertion made by a speaker in Catalan.

(17)   El cel és   blau.
        the sky be.3P.SG.IND blue

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[13]The case for knowledge has a particular name: the problem of *logical omniscience*. Just as for beliefs, it would mean that if *a* knows ϕ, and ϕ entails ψ, *a* also knows ψ.

'The sky is blue.'
(*Catalan*)

Under Giannakidou & Mari's approach, the statement would be the expression of a veridical commitment in the sense that I believe or know $\phi = \llbracket$the sky is blue$\rrbracket$. The same outcome follows if we consider embedded sentences in performative uses (18-a) or reports of somebody else saying ϕ (18-b).

(18) a. Dic   que el cel és   blau.
          say.1P.SG.IND that the sky be.3P.SG.IND blue
          'I say that the sky is blue.'
      b. En Joan diu   que el cel és   blau.
          the Joan say.3P.SG.IND that the sky be.3P.SG.IND blue
          'Joan says that the sky is blue.'
      (*Catalan*)

All of the above sentences would say the same thing about either me, or the person the speaker reports about (Joan), namely that we are veridically committed to $\phi = \llbracket$the sky is blue$\rrbracket$. That being the case, this would mean that the any linguistic agent in these cases knows or believes ϕ, as per Giannakidou & Mari's definition.

Note that Giannakidou & Mari follow a Hintikkan definition of belief that quantifies over possible worlds (Giannakidou & Mari, 2021, 42, 147). On such a view, the issue that Geurts has raised for beliefs that quantify over possible worlds becomes imminent, namely that the speaker would not only believe that the sky is blue, but also, among other things, that the Pythagorean theorem is true, for instance. This, in turn, as we have reflected before, is highly implausible to assume, which is why the theory that Giannakidou & Mari pursue here with beliefs simply runs into a problem. This problem arises, as one can already see, from the direct link between indicative and veridical commitment, i.e. belief or knowledge. In turn, this opens the floodgates for every instance of indicative to bring us in said consequences. In other words, whenever a speaker uses the indicative, (s)he will have to deal with the issues related to the question of whether beliefs hold for closure under entailment. Ideally, we want to avoid such problems in the first case and normative commitments would not even have to deal with these in the first place.

A more direct contrast between normative commitments and cognitive attitudes applies to cases with logical entailments on the content level. Suppose the speaker reports on what Joan is unaware of about his friend Marc, based on a generalisation he makes beforehand.

(19)   En Joan diu   que tothom   que és   metge o
        the Joan say.3P.SG.IND that everyone that be.3P.SG.IND doctor or
        advocat ha   estudiat   a la universitat. Però no
        lawyer have.3P.SG.IND study.PPRT at the university but not
        s'adona   que això vol   dir   que en
        REFL-realize.3P.SG.IND that this want.3P.SG.IND say.INF que the
        Marc, que és   advocat, també hi   ha
        Marc REL be.3P.SG.IND lawyer   also   there have.3P.SG.IND
        estudiat.
        study.PPRT
        'Joan says that everyone who is a doctor or a lawyer has studied at
        university. But he doesn't realize that this means that Marc, who is
        a lawyer, has studied at university.'
        (*Catalan*)

The first part of Joan's utterance contains a sentence in the indicative mood, which would signal a commitment in the normative sense. That is, Joan vouches for the truth of the general statement that everyone who is a doctor or a lawyer has studied at university. If we take this statement as (20) in standard first-order logic, it is a case of universal instantiation and *modus ponens*, giving us (21):

(20) ϕ: $\forall x[doctor(x) \lor lawyer(x) \rightarrow studied(x)]$
        ψ : $lawyer(Marc)$
        $\therefore \chi$: $studied(Marc)$

(21) $\phi \land \psi \models \chi$

Thus, given Joan's commitment to ϕ (via the indicative) and the contextual fact ψ, Joan is also normatively committed to χ. Even if he does not believe or fails to recognize that χ follows, his commitment still extends to it via closure under entailment. This entailment can be cognitively non-transparent: Joan may simply fail to notice that the general statement applies to Marc, even though the commitment still holds.

Consider now the following version where a genuine contradiction arises that the speaker reporting on Joan correctly points out.

(22)   En Joan diu   que tothom   que és   metge o
        the Joan say.3P.SG.IND that everyone that be.3P.SG.IND doctor or
        advocat ha   estudiat   a la universitat, i
        lawyer have.3P.SG.IND study.PPRT at the university   and
        diu   que en Marc, que és   advocat, no
        say.3P.SG.IND that the Marc REL be.3P.SG.IND lawyer   not
        ha   estudiat   a la universitat. Per això, en Joan
        have.3P.SG.IND study.PPRT at the university. for this the Joan
        es   contradiu.
        REFL contradict.3P.SG.IND
        'Joan says that everyone who is a doctor or a lawyer has studied at
        university, and he says that Marc, who is a lawyer, has not studied
        at university. Therefore, Joan contradicts himself.'
        (*Catalan*)

Here, both statements are in the indicative, meaning Joan is normatively committed to both ϕ and $\neg\psi$. The first statement, a universal generalization, logically entails that Marc, a lawyer, has studied. Joan's second statement of $\neg\psi$ contradicts the entailment of ϕ, ψ. Therefore, Joan's commitments are not consistent, and the speaker correctly concludes that Joan contradicts himself. Unlike the earlier example where Joan failed to recognize an entailment, this is an apparent case of direct conflict between two commitments, whereas in (19), there is no apparent contradiction because we do not report on what Joan is committed to but rather that he simply is not aware of ψ.

(19) and (22) illustrate that normative commitments ignore a speaker's cognitive awareness or beliefs in the sense that they follow under entailment regardless of the speaker's awareness. Joan may sincerely not realize that his statement about doctors and lawyers applies to Marc, but once he has committed to ψ, and ϕ is taken as given, he is also committed to χ, whether he believes it or not. This gap between commitment as a normative state *vis-à-vis* cognitive states reinforces the point that normative commitments and beliefs come apart: while it is not obvious that the latter are not always closed under entailment, commitments are, precisely because of their legal and non-cognitive nature. We do not have to deduce anything about Joan's

beliefs in (22) to point out that he is contradicting himself. Saying that indicative signals that Joan is committed regardless of his beliefs thus appears to be a good candidate to explain these issues.

Looking at the other candidate, the cognitive account, we will observe that the treatment of the two cases above would be virtually the same as both carry indicative in their premises and therefore make Joan believe that everyone who is a doctor or a lawyer has studied. The prediction for a cognitive account would then be the following: (19) would, somehow inconclusively, predict that Joan entertains inconsistent beliefs because if beliefs were entailed, then he would believe ϕ, ψ, and χ. Saying that he wasn't aware of ψ would be conflicting with the alleged entailed belief of ψ through the belief of ϕ, as signalled by the indicative. This, apparently, is not the case as (19) is perfectly fine despite being unaware of ϕ, nor does it necessarily follow for the speaker to say that Joan is contradicting himself or has contradictory beliefs. This underlines that the entailment of a belief, as argued by Geurts (2019b, 2024), is less straightforward than an entailment of a commitment.

In sum, then, treating indicatives as markers of belief or knowledge (i.e., veridical commitment) exposes us to the problems of closure under entailment: speakers may fail to believe or know logical entailments of what they assert. This makes contradiction judgments about such speakers shaky. In contrast, on a normative view of commitment, asserting ϕ commits the speaker to ϕ and ψ, if ϕ entails ψ, regardless of their beliefs or knowledge of ψ, let alone their awareness of it. This explains why denial of ψ after asserting ϕ – if ϕ entails ψ – feels contradictory, even if the speaker is unaware of the entailment, while merely failing to believe ψ does not. The indicative, on this view, appears to encode accountability as issued by a commitment, not a cognitive attitude.

5.1.2   Verifiability

In §3.3, we have shown that unlike commitments, beliefs are unverifiable and private. The latter is confirmed by Giannakidou & Mari (to appear), who state that (speaker) commitments in the light of their cognitive definition "is an entirely private attitude of the speaker or the attitude holder". Their cognitive theory of mood suggests, however, that indicative signals a belief, and as such, makes the private state of belief 'visible' through the

morphological mark-up of the verb in question.[14] The idea that indicative displays a speaker's belief, seems to contradict the idea of beliefs not being verifiable. Below, we will look at two cases where the general assumptions of non-verifiability of beliefs *qua* indicative is not plausible.

One issue that comes up is the following: If we assume that the indicative signals a veridical commitment, i.e. belief or knowledge, then this would mean that we manifest an idealisation of Gricean sincerity. Why is that so? Let us for now assume the addressee's A perspective that is subject to a speaker's S array of statements in (23).

(23)   a.   El cel és   blau.
              the sky be.3P.SG.IND blue
              'The sky is blue.'
        b.   Barcelona és   una trampa per a turistes.
              Barcelona be.3P.SG.IND a   trap   for to tourists
              'Barcelona is a tourist trap.'
        c.   Pau Casals i   Joshua Bell toquen   demà   a
              Pau Casals and Joshua Bell play.3P.PL.IND tomorrow at
              l'Auditori.
              the-Auditori
              'Pau Casals and Joshua Bell play tomorrow at the Auditori.'
        (*Catalan*)

All of the sentences carry different flavours in the light of S's sincerity. (23-a) is a factual statement, (23-b) is an exaggeration, and (23-c) is a false statement of fact.[15] However, what all of S's assertions have in common is that they carry an indicative. Based on a cognitive account of mood, A would be entitled to conclude that S believes the propositional content of every one of these statement as they carry the indicative. However, this does not seem to feel quite right. Firstly, given that all statements allow for different assessment on A's part in terms of what S believes, the indicative would lead to what Venant & Asher (2015) called a strong assumption of Gricean sincerity,

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[14]This would beg an additional question that would move into a philosophical direction. Namely, if the indicative always displays a belief, then a speaker would always lay open their private cognitive state and become transparent and predictable, so to speak.

[15]As Pau Casals passed away in 1973, he is not longer amongst the living.

i.e. the speaker would infer by default that *S* believes what (s)he says. But as they equally point out, strong assumptions would cloud *A*'s judgments of *S*'s sincerity in cases of lies, deception, or exaggeration and thus allow for different grades of probability of whether *S* truly believes ϕ. Crucially, *A* cannot verify whether *S* believes the propositional content of every single statement. But if the indicative would signal a belief, *A* would always be entitled to say that everything *S* says is automatically something *S* believes. This is too strong and rather subject to an idealization of a world where lies and exaggerations do not seem to find their place.

Commitments, on the other hand, are immediately verifiable such that we would say that in all instances in (23), we can conclude that *S* vouches for the truth of the propositional contents regardless of *S*'s beliefs or knowledge. In any case, *S* will be held accountable in one way or another if the propositional contents turn out to be false, for instance. This would definitely apply to (23-c), where *A* may call out on *S* that (s)he is bullshitting because the statement is not supported by proper evidence because Pau Casals is no longer alive. Whether *S* believes what (s)he says is irrelevant and unverifiable in this respect and less likely to be contested.

Looking further at verifiability and indicative, we can also think of cases where beliefs and commitments do not appear to coincide for whatever reason. Such cases are not hard to find. Think of the following in (24).

(24)   *Context: Joan is a scientist at a pharmaceutical company who discovers that the recently developed drug has negative side effects. Despite knowing this, he is compelled to withhold this information and publicly claim that there are no side effects in order to protect the company and its shareholders from financial loss. At a press conference, he then states:*

    a.   El   nou medicament no té   efectes secundaris
         the new medicine   not have.3P.SG.IND effects secondary
         negatius.
         negatives
         'The new drug has no negative side effects.'
         (*Catalan*)

Let us assume that at that press conference, a journalist, Maria, is present who trusts Joan to be an honest person and is unaware of the context in (24).

Thus, from Maria's perspective and based on what she knows, she would have reasons to assume that Joan also believes what he says in (24-a). Unbeknownst to her, Joan does not believe $\phi = [\![$the new drug has no negative side effects$]\!]$. What is crucial here is that Maria does not know about Joan's beliefs based solely on his statement in (24-a) in isolation, let alone can she verify Joan's actual beliefs. Granted, she might suspect that Joan does not genuinely endorse what he said, but this, again, is only subject to speculation and far from certain. In one way or another, Joan's belief or knowledge is unverifiable from Maria's perspective. At this point, the only verifiable fact for Maria is that Joan made the statement in (24-a) by which he vouches for the truth of ϕ, i.e. his commitment to the propositional content in his statement in (24-a). This and only this is the (pragmatic) fact Maria can verify during the press conference.

5.1.3 Lying

The issue that cognition-based accounts of mood bring is the case of lies that Schlenker (2005) has already pointed out as a weak point for cognition-based accounts of mood. As discussed in §3.5, lying is generally defined as saying or committing (Viebahn, 2021) to ϕ, while believing $\neg\phi$. This aspect alone raises doubts as to how lies can be predicted with a mood theory that stipulates that the indicative signals belief or knowledge. This issue applies to both plain assertions as well as cases that involve argument clauses.

A first case to underline the issue is that of reported lies. Suppose a government spokesperson is preparing a statement on behalf of the Minister of Health, who knows that the new health policy will disproportionately harm low-income citizens. However, for political reasons, the minister instructs the spokesperson to publicly claim the opposite:

(25) El Ministre diu   que la   nova política sanitària
      the minister say.3P.SG.IND that the new policy   sanitary
      beneficia   tothom   per igual.
      benefit.3P.SG.IND everyone for equal
      'The minister says everyone benefits equally from the new health
      policy.'
      (*Catalan*)

Here, the spokesperson is reporting what the minister told them to say, but both know this statement is false. Under a cognitive account, using the indicative mood implies that the minister believes the policy benefits everyone equally. Yet this contradicts the private knowledge that the minister believes the opposite. If we go further and put ourselves in the perspective of a journalist attending the press conference of the minister, (s)he would now assume, via an idealisation of a Sincerity Maxim, that the minister also believes what (s)he says. This would be a welcome prediction, especially for a journalist, but unfortunately (often) does not correspond to reality.

(25) illustrates a consequential asymmetry: while the minister's report is insincere, the indicative mood in the CC – on a cognitive account of mood – signals the minister's belief of the truth of its content, namely that the new health policy does benefit everyone equally. A normative account, on the other hand, would state that the indicative signals that the minister is now (socially) responsible for the truth of ϕ = ⟦everyone benefits from the new health policy⟧, and if there is any plausible evidence that (s)he must have known otherwise, or if ϕ turns out to be false based on political facts that appear during the course of the legislative period, the minister will ideally be held accountable for the statement (s)he made before. Finding out that (s)he must have known – for instance *via* a private communiqué – it would further expose that (s)he was indeed lying because his or her commitments and cognitive attitudes did not align at the time of his or her statement.

We can equally find similar issues when looking only at plain assertions. Unlike Schlenker (2005), Giannakidou & Mari (2021) focus not only on what the indicative triggers but also what prerequisites for the indicative are necessary. Thus, they also take on a speaker-centered view for mood, discussing use-conditions of the indicative, so to speak. A crucial condition is subjective veridicality (Giannakidou & Mari, 2021, 59). Let us take a more formal view on this matter to demonstrate the rigidity of their account even further and take a look at what the conditions for veridicality are. This is given in (26).

(26)   a.   A function F that takes a proposition ϕ as its argument is veridical with respect to an individual anchor x and an information state $M(x)$ iff $F\phi$ entails ϕ in $M(x)$.

      b. $F\phi$ entails ϕ in $M(x)$ iff $\forall w[w \in M(x) \rightarrow w \in \{w|\phi(w)\}]$.
(Giannakidou & Mari, 2021, 59)

We will see shortly that such an account will display the same symptoms of not being able to properly capture cases of lying. To illustrate, let us assume (13) again, repeated in (27)

(27)   *Context: Joan is aware that Maria is not a Catalan police officer (Mosso) but says:*
         a.   La Maria és   Mosso.
               the Maria be.3P.SG.IND Mosso
               'Maria is a Mosso.'
               (*Catalan*)

In (27-a), the indicative would imply that the prerequisite of subjective veridicality has been met and it therefore holds that $F(\llbracket \text{Maria is a Mosso} \rrbracket) \models \llbracket \text{Maria is a Mosso} \rrbracket \in M(Joan)$. However, since Joan is lying in (27-a), this cannot be the case, hence we have to assume that $F(\llbracket \text{Maria is a Mosso} \rrbracket) \notin \llbracket \text{Maria is a Mosso} \rrbracket \in M(Joan)$. But this would mean that the prerequisite for the indicative has not been met and it is therefore not licensed; the indicative surfaces while Joan is lying regardless. This begs the question whether subjective veridicality is a prerequisite for every emergence of the indicative. Giannakidou & Mari (2021, 311) also postulate veridicality as a precondition for assertion, following from a Gricean Quality Maxim, the only maxim that refers to a psychological state (Geurts, 2019b, 23). While violations of quality maxims should be avoided, they happen nonetheless when the speaker decides to be deceptive. From the speaker's perspective, subjective veridicality strictly anticipates the quality maxim for each occurrence of the indicative, whereas from a hearer's perspective, it is difficult to immediately verify whether the speaker honours such a maxim or not. Thus, establishing the link between the content of speaker's utterance of (13) and his belief would only follow under strong assumptions of Gricean sincerity maxims which cannot be assumed to hold across the board (Venant & Asher, 2015, 598). It is therefore not surprising that the difficulty to handle insincerity also spills over into Giannakidou & Mari's assertability condition (26), which also involves subjective veridicality. Thus, (26) is only applicable to what Giannakidou & Mari (2021, 60) call "cooperative assertion". The sentence 'Flavio is a doctor' is assertable only if the world in which Flavio is a doctor is in the information state $M(x)$, the worlds that are compatible with what x knows or believes in an utterance context (Giannakidou &

Mari, 2021, 59). Since cognitive accounts of mood suggest that the indicative expresses a linguistic agent's belief (Schlenker, 2003; Giannakidou & Mari, 2021), and assertions in Romance only come with the indicative (Terrell & Hooper, 1974; Quer, 1998), Giannakidou & Mari's take on assertion would be close to Bach & Harnish (1979) in that the speaker expresses belief *qua* assertion. This is problematic as has been argued in the recent literature (MacFarlane, 2011, 2014; Krifka, 2014, 2022).

On a belief-based account, we could never verify based on the mere assertion of (13) that the speaker really believes Maria is a Mosso, as we have argued that beliefs are not verifiable but private, only commitments are verifiable. We can only assume that there is a given (un)certainty that this is the case. Treating speaker commitments as private cognitive rather than normative states undermines our ability to hold speakers accountable. On our view, what matters is not whether the speaker truly believes ϕ, but that they are responsible for ϕ. That is, if it turns out that ϕ is false — or that the speaker privately believes the opposite — they are still accountable for asserting it. Belief, being unverifiable, becomes less relevant in terms of accountability. The same implausibility arises if we claim that the indicative encodes belief rather than commitment: it suggests we know the speaker's internal state, when in fact all we can reliably assess is their public commitment to ϕ. Saying that indicative marks a commitment would be a safer bet than saying that the speaker believes ϕ, which would anticipate some strange external introspection or mind reading.[16]

To make matters worse for Giannakidou & Mari (2021), they even explicitly argue that an assertion is licensed under the following condition, as they illustrate for the sentence 'Flavio is a doctor'.

(28)   'Flavio is a doctor' is assertable by speaker x if and only if $\forall w[w \in M(x) \rightarrow w \in \{w''|doctor(Flavio)(w'')\}]$.

Their restriction of indicative to cooperative assertions[17] with (28), then, leaves no room for cases of insincere assertions such as (13). On this ac-

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[16]Interestingly, even if we were to verify that they believe that Maria is a Mosso, we would hold him accountable for his belief. Put differently, the speaker is committed to the proposition "the speaker believes ϕ".

[17]A solution that Giannakidou & Mari (2021) provide is to limit the theory to sincere speech acts only. However, this is more like strategic sidestepping that undercuts reality,

count, lying would turn out to be impossible as asserting any proposition that carries an indicative requires that for all w, that are in x's model, that w' is in the set of evaluation worlds w'' at which the proposition is true. Let us assume that speaker x believes the opposite, i.e., Flavio is not a doctor. We then get the following assertability condition.

(29)   'Flavio is not a doctor' is assertable by speaker x if and only if $\forall w[w \in M(x) \rightarrow w \in \{w''|\neg doctor(Flavio)(w'')\}]$.

Now, the assertability condition would prevent x from (insincerely) asserting that Flavio is a doctor; it would only allow for a sincere assertion of Flavio not being a doctor. Of course, in reality, it is perfectly possible for x to assert that Flavio is a doctor while x believes the opposite, but (29) is not able to capture this. In fact, attitudes such as beliefs or knowledge are not necessary to license a successful assertion (MacFarlane, 2011, 2014; Krifka, 2014; Kneer, 2018; Kelp & Simion, 2022) which calls (28) further into question for independent reasons. As normative commitments are not a licensing condition for an assertion, they arise when assertions are made. Crucially, once the speaker decides to assert ϕ and has done so, the speaker becomes committed to ϕ. To do that, no belief or knowledge of ϕ is necessary as the speaker may assert and thus commit to ϕ even when the speaker has no reason to do so.

With our two examples (13) and (25), we have shown that on the one hand, a speaker cannot lie because the condition of making a assertion that hinges on having a belief will disallow that. On the other hand, an addressee would always take a speaker to belief when they use the indicative. Under this perspective, the account gives an Orwellian twist to mood, rendering it indeed as the "mood of truth" (Giannakidou & Mari, 2021).

5.2   Veridical commitment as involvement?

A last note should be made on the interpretation of commitments in the sense of Giannakidou & Mari (2021) which might even be closer related to the concept of involvement, first introduced by Katriel & Dascal (1989) to

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namely that speakers can be insincere, assert, and thus use the indicative in cases where they are uncooperative.

distinguish it from commitments. Involvements serve to evaluate the relation between a speaker and its propositional content. Unlike commitments, which are taken to be an "all or none matter", involvements "genuinely involve degrees".

Katriel & Dascal principally link involvement to the illocution of a speech act, i.e. the core communicative purpose of a speech act and what the speaker tries to accomplish with it (Austin, 1962). Referring back to Searle & Vanderveken (1985), Katriel & Dascal point out that a speaker uttering a command "makes a stronger attempt to the get the hearer to do something than a speaker who requests" and a speaker "who supplicates expresses a stronger desire than a speaker who requests" (Katriel & Dascal, 1989, 278, citing Searle & Vanderveken, 1985, 189,191). While pairs such as command and request, as well as suppplication and request have the same illocutionary point – making the addressee fulfil a certain action – their illocutionary force is different. A supplication and a command are stronger attempts to make the addressee do something than a request. What Katriel & Dascal suggest, then, is that instead of saying that the strength of illocutionary force affects the degree of commitment – a notion they do not attribute any gradability at all – it rather affects the degree of involvement of a speaker. In other words, the stronger the illocutionary point, the higher the involvement, and, *mutatis mutandis* , the weaker the illocutionary point, the lower the involvement.

We might argue that the concept of involvement is a better fit for what Giannakidou & Mari call veridical commitment. A general motivation is that involvement, apart from being gradable, is a cognitive notion (Katriel & Dascal, 1989; Cornillie, 2018), just like veridical commitments. To provide more concrete motivation for this suggestion, we look at Giannakidou & Mari's discussion on non-modalized (30-a) and modalized declaratives (30-b).

(30)   a.   It is raining.
        b.   It may/must/might/could be raining.

Here, Giannakidou & Mari argue that an asserted non-modalized declarative signals "that the speaker is fully committed to the proposition *It is raining*" (p. 52). An asserted modalized declarative such as (30-b), on the other hand, "implies that the speaker is uncertain and considers both ϕ and $\neg\phi$ possible", and summarize that if embedded under a modal, "the speaker

signals that she cannot be **fully** committed to ϕ [...]. She still has some commitment to *It is raining* because she is not denying it, but the speaker is not committed enough to add ϕ to the common ground" (Giannakidou & Mari, 2021, 53).[18] As for illocutionary force, we can make an interesting observation here. Note that both (30-a) and (30-b) are assertions, but (30-b) is weaker in its illocutionary force than (30-a). Following Katriel & Dascal (1989), then, (30-a) would display a higher involvement than (30-b). This is indirectly confirmed by Giannakidou & Mari (2021) when they state that the speaker asserting (30-a) can add ϕ to the common ground, whereas a speaker uttering (30-b), according to Giannakidou & Mari, "cannot be fully committed to ϕ" (p. 52) and thus not add ϕ to the common ground. Here, reframing this reasoning as the speaker displays high or low involvement captures this observation equally well. Namely, the speaker retains partial involvement, enough not to deny ϕ, but not enough to assert and thus propose it to the common ground. Thus, one could reconsider the notional terminology and think instead of weak commitments in Giannakidou & Mari's sense as a low involvement. In principle then, if recast into involvements, modalised assertions such as (30-b) manifest weaker illocutionary points which conveys lower speaker involvement, non-modalised assertions such as (30-a) higher speaker involvement.

Beyond Katriel & Dascal (1989), involvement has been treated as a cognitive and gradable notion in recent literature (Cornillie & Delbecque, 2008; Cornillie, 2018). The latter highlight the confusion of commitments and involvement, arguing that involvement is often a better choice when discussing evidentials and modals, two categories on which Giannakidou & Mari (2021, to appear) place particular emphasis. Just like Cornillie & Delbecque, Giannakidou & Mari (2021) speak of strong and weak commitment when discussing modals, but unlike Giannakidou & Mari (2021), Cornillie & Delbecque quickly point out that involvement is a much better term

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[18]Such a reasoning could be related to Cornillie & Delbecque (2008) who say that "different degrees of speaker commitment then correlate with different kinds of speaker involvement, triggered by cognitive processes such as comparison, appropriation or subjectification." On such a view, a speaker uttering (30-b) hedges their assertion to the extent that it must have involved 'cognitive processes' such as doubt or hesitation to fully endorse that it is raining. In doing so, the involvement results in being low. Unlike (30-b), the speaker asserting (30-a) would display full involvement due to different cognitive processes involved.

such that necessity modals involve strong involvement, whereas possibility modals involve weak involvement. As they emphasise, involvement "focuses on the cognitive principles that make speakers construe expressions the way they do" (Cornillie & Delbecque, 2008, 59). Even more, their distinction of high and low involvement comes very close to Giannakidou & Mari's idea of weak or strong veridical and subjective veridical commitments. Cornillie & Delbecque (2008) say that "the more the deontic background can be subjectified the more the speaker is involved in the subjective construal", as well as speaker involvement refering to "the degree to which the present speaker is implicitly involved in the construal of [a] [...] relation". On this view and the brief discussion of one of Giannakidou & Mari's examples, one might think of what Giannakidou & Mari (2021, to appear) define as veridical commitment could find a new semantic home if recast into involvement. We will have to leave further details on this topic for future discussion.

5.3   Switching sockets: mood as a reflex of normative commitments

In the previous sections, we have shown that a prospective normative account fares better than a cognitive account in terms of explaining the indicative and that Giannakidou & Mari's notion of (veridical) commitment would potentially fare better as involvement, a cognitive notion. The bottom line we have drawn is that the indicative does not mark some individual agent's belief but rather a commitment in the sense that the agent vouches for the truth of the propositional content in question.

However, we do not have to abandon the idea that mood and cognitive attitude are unrelated, nor does this emerge from the juxtaposition of a cognitive and normative account. Rather, we are dealing with a reprioritisation of cognitive attitudes and commitments in relation to the indicative, a sort of paradigm shift in terms of what the indicative triggers. Specifically, this means that the indicative is not a signal for a cognitive state, but rather signals commitment. This means that cognitive states take a backseat when it comes to capturing the role of the indicative mood.

Thus, based on our discussions on commitments so far, we can suppose the following: If the indicative signals an individual's a commitment to ϕ, and commitments imply beliefs by default (Geurts, 2024), we get a relation between mood and beliefs that is only indirect, while the relation between

mood and commitment is of a direct nature. The previous idea of a cognitive account of indicative mood is given in (31), whereas the current idea of a normative-based account of mood is presented in (32). We will adapt the judgment stroke ⊢, as originally proposed in Krifka (2023) to express $x \vdash \phi$, x vouches for the truth of ϕ. The notation B_x describes x's belief.

(31)   IND $:= B_x\phi$

(32) $[\text{IND} := x \vdash \phi] \rightsquigarrow B_x\phi$

The formalization in (32) captures the idea that verbal mood is, in fact, commitment-bearing, not belief-revealing. On this view, the indicative is defined as a an agent's commitment to ϕ which only implies a's belief to ϕ. This also captures an important aspect, namely that not every belief has to be associated with the indicative. We will see, for instance, that emotive-factives behave in a way that they presuppose a belief to the propositional content of the complement even though they carry the subjunctive. Furthermore, a normative-account now captures the idea that the indicative is a grammatical reflex of a (verifiable) commitment. Recapitulating the image of commitments being warrants, the indicative is the slip of paper on which the warrant is written. Thus, every instance of an indicative would signal that somebody is committed to ϕ.

Having critically assessed the idea of commitments in the current mood literature, the notion of commitments we will treat here is a different one. This, in turn, means that previous approaches to indicative mood (i.a. Rivero, 1971; Mejías-Bikandi, 1998; Schlenker, 2005; Silk, 2018) have not treated indicative in the actual normative sense of commitments, if treated more formally, as done in Schlenker (2005); Silk (2018); Giannakidou & Mari (2021), for instance. As such, we can speak here of a paradigmatic shift of treating indicative as a normative reflex such that it serves as an immediate reflex of somebody's commitments that are verifiable once it surfaces as a grammatical form. This, then, will bear the consequence that whenever we see a form of an indicative, we will have to assume that there is some committer present which does not necessarily have to be the speaker, but has to be localised. While this thesis is quite strong and bear heavy consequences for the overall mood literature and potentially run into issues in some cases – among which are conditional sentences, for instance – this would go beyond the scope of this dissertation such that for the time being, I will pursue a weaker

hypothesis that the occurrence of indicative mood in cases of mood alternation will enjoin that a relevant discourse participant is committed to the propositional content in question that carries an indicative.

6   Summary

In this chapter we have looked at the term commitment in its traditional understanding where it is treated as a term of a normative or legal nature. On this view, commitments are fundamentally different from beliefs, a cognitive term, such that commitments, unlike beliefs, are immediately verifiable, apply more plausibly to doxastic logic, or explain lying more straightforwardly. With these fleshed-out differences between beliefs and commitments equipped, we have looked at prominent proponents of *commitment* in the mood literature and have concluded that their use of commitment is not in line with its traditional (read: normative) sense. Rather, the term is used as an auxiliary term that still pursues to explain mood as a reflex of a cognitive state. In contrast, we proposed – for the first time – a normative picture of mood that is decoupled from cognitive states which are now taking the back seat in explaining its surface. Put differently, what verbal mood, and more prominently, indicative mood does is that it serves as a grammatical reflex of a commitment, not belief. The belief that is derived from the indicative is just an implication that does not always hold across the board as cases of insincere speech acts show (lies, exaggeration etc.). Here, the speaker using the indicative is still committed to ϕ but believes $\neg\phi$ which causes fundamental problems for any cognitive account for verbal mood.

Chapter 4

The mood-presupposition-commitment nexus

Contents

1   Introduction

The relation between presuppositions and speaker commitments was introduced early on (Searle & Vanderveken, 1985; Stubbs, 1986; Katriel & Dascal, 1989) and has gained traction in more recent work (Simons, 2007; Peters, 2016; Beaver et al., 2017; Mazzarella et al., 2018). While the relation between speaker commitment— in its pre-theoretical sense — and mood has been acknowledged in earlier literature (Rivero, 1971, 1979), the aim of this chapter is to develop a novel perspective that connects indicative mood, presupposition, and normative commitment. We will argue that when the propositional content of the complement clause is presupposed, the indicative is used. Crucially, we propose that presuppositional readings are markers of speaker commitment, in that the speaker cannot coherently deny the content without self-contradiction. As we will see, presuppositions may arise either as semantic presuppositions or as speaker presuppositions, depending on the case. With semantic presuppositions, we mean those presuppositions that are "part of the encoded meanings of specific words and constructions" (Potts, 2015, 169). In any case, this goes hand in hand with the idea of indicative encoding a speaker commitment and the observation in this chapter that presuppositions function as speaker commitments.

The chapter is built as follows. §2 introduces the central idea of this chapter that presupposition can be treated as speaker commitments. We depart from Peters (2016) who sets out to distinguish speaker meaning from speaker commitment in §2.1. §2.3 will look at the proposed notion of *origo* that is particularly relevant for cases of embedded contents. §3 is dedicated to mood alternation and its relationship to presupposition where we argue that presupposed content and indicative both signal a speaker commitment such that the presence of a presupposed content of the CC carries an indicative. § looks at non-factive verbs and their presupposed contents. Here, we will look at cases from 'believe' (*verba putandi*) and 'say' (*verba dicendi*). §3.2 will look at the presuppositions found in RSVs, where we subdivide the group into positive and negative RSVs. Here, we will conclude that the presupposition and the occurrence of indicative appear to go hand in hand. §4 closes with some concluding remarks.

2   Projections and commitments

2.1   Peters (2016)

Peters (2016, 1083) postulates that presuppositions "are not just speaker meaning but speaker commitments", an assumption already made in passing by Searle & Vanderveken (1985, 90), who describe presuppositions as non-overt commitments. More concretely, Peters discusses the observation that speaker commitments are not cancellable without resulting in a (speaker) contradiction, a fact he exploits to test for presuppositions.

Let us turn to one of his key examples, (1-a), a question in the syntactic guise of a pseudo-cleft that presupposes (1-b). Pseudo-clefts are considered presupposition triggers (see Bolinger, 1972; Jackendoff, 1972; Atlas & Levinson, 1981; Geurts & van der Sandt, 2004, i.a.). According to Peters' assumption that presuppositions are speaker commitments, a speaker uttering the question in (1-a) must not utter a sentence that contradicts (1-b) as otherwise the discourse turns out to be pragmatically deviant.

(1)   a.   Was it Huck who dipped Becky's pigtail in the inkwell? #Nobody did.
       b.   Someone dipped Becky's pigtail in the inkwell.
       (Peters, 2016)

This contradiction is seen in (1-a). Here, the speaker becomes committed to ⟦(1-b)⟧ after uttering the question in (1-a). The follow-up of the question in (1-a) commits the speaker to ⟦nobody dipped Becky's pigtail in the inkwell⟧. Accordingly, (1-a) is pragmatically deviant because the speaker displays inconsistent commitments.

Peters continues that presuppositions have a characteristic which clearly distinguishes them from conversational implicatures (henceforth implicatures), namely that unlike the former, the latter can be *prevented*, a term I will use in lieu of *cancelled*, as suggested in Geurts (2010).[1] Peters suggests

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[1]While this principally seems like a purely cosmetic exchange of labels, Geurts gives good reasons that the term *cancel* is sometimes misleading. To give but one example, a speaker's utterance of *Either Harry is in Brussels or in Antwerp* while playing a guessing game about Harry's whereabouts, such utterance does not prompt the implicature that the speaker doesn't know whether Harry is in Antwerp and doesn't know whether he is in

that implicatures cannot be speaker commitments because a speaker can still undertake commitments that contradict the content of the implicature itself without resulting in contradictory commitments. To drive this point home, Peters (2016) draws on two run-of-the-mill examples for implicatures, (2) and (3).

(2)   Some students passed the course.

(3)   Q: Shall we go to the movies tonight?
      A: I need to study for an exam tomorrow.

(2) implicates that not all students passed the test, and (3) implicates that the speaker won't go to the movies. But observe now that in (4), the conversational implicature *Some students passed the test* is prevented through the follow-up that all students passed the test, and in (5), the speaker agrees to going to the movies tonight, thus preventing the implicature *I won't go to the movies*.

(4)   Some students passed the course. In fact, all did.

(5)   Q: Shall we go to the movies tonight?
      A: Sure, though I need to study for an exam tomorrow.

Now, in both cases, the speaker commits to the opposite of the implicated content without creating a deviant discourse. Since both cases are implicatures that merely convey speaker meanings, neither of them are speaker commitments. The speaker is not committed to the respective content, i.e. *not all students passed the test* and *I won't go to the movies*. If implicatures were indeed speaker commitments, the speaker would have inconsistent commitments, contrary to fact. As Peters concludes, this results in a sharp contrast to cases with presuppositional content such as (1).

For his next argument that distinguishes presuppositions from implicatures, we need to go a little further and introduce the so-called F(amily) O(f) S(entence)-test (Langendoen & Savin, 1971; Karttunen, 1973; Chierchia &

Brussels because the rules of the game presuppose that the speaker of course knows where Harry is. Given these circumstances, the utterance prevents the hearer from deriving the implicit implicature that the speaker doesn't know where Harry is. For more examples and a discussion, see §1.4 in Geurts (2010).

McConnell-Ginet, 1990, a.o.). Peters makes a crucial observation here: the FOS-test only is not a reliable tool to test whether an implication qualifies as a presupposition; for embedded clauses, it merely shows that the clausal complement (henceforth CC) of a verb projects (see also Simons et al., 2009). Since we have already seen that inconsistent commitments arise when contradicting presuppositions but not implicatures, Peters proposes the same approach for a finer-grained version of the FOS-test. Let us call this finer-grained version the FOS$^+$-test. An exemplary application by Peters (2016) of the FOS$^+$-test to a complex sentence such as (6) to test for the projective content in its CC is given in (7).

(6)   John was forced to whitewash the fence.

(7)   a.   John was forced to whitewash the fence, #but he didn't white-
              wash it.
        b.   John wasn't forced to whitewash the fence, and he didn't white-
              wash it.
        c.   If John was forced to whitewash the fence, Tom should be pun-
              ished; but John didn't whitewash it.
        d.   Was John forced to whitewash the fence? Or did he not white-
              wash it?

With this FOS$^+$-test, Peters observes that the speaker is only committed to the CC in (7-a), but not in (7-b)-(7-d) for which he concludes that *force* does not presuppose but rather implicate its CC (Peters, 2016, 1088).[2] While (7) merely supports Peters (2016, 1088)'s claim that the propositional content of the complement clause is "definitely not a presupposition", we are interested in a case where the FOS$^+$ test actually fulfills its diagnostic function, namely, to determine whether we correctly predict that the presupposed content is a speaker presupposition. To demonstrate this, the full array of tests should yield infelicity if a presupposition is present due to inconsistent commitments. Consider (6) again, only this time as a cleft sentence that would presuppose that someone whitewashed the fence (8-b).

(8)   a.   It was John that was forced to whitewash the fence.
        b.   Someone was forced to whitewash the fence.

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[2]The verb *force* falls into the category of implicative verbs (see Karttunen, 1971).

Applying the FOS$^+$ test to (8-a) reveals that it correctly identifies inconsistent speaker commitments across all conditions, as seen in (9), thus confirming that the speaker is indeed committed to (8-b).

(9)   a.   It was John that was forced to whitewash the fence, #but nobody whitewashed it.
      b.   It wasn't John that was forced to whitewash the fence, #and nobody did it.
      c.   If it was John that was forced to whitewash the fence, Tom should be punbished; #but nobody whitewashed the fence.
      d.   Was it John that was forced to whitewash the fence? #Or did nobody whitewash it?

However, one might argue that presuppositions could still be contradicted as the case in (10) suggests.

(10)   Jim doesn't regret [he studied linguistics] because in fact, he didn't.

While the factive verb *regret* presupposes and thus commits the speaker to its complement ϕ = ⟦Jim studied linguistics⟧, the follow-up appears to be a contradiction by the speaker as (s)he would then commit to $\neg\phi$ = ⟦Jim studied linguistics⟧, suggesting infelicity. Contrary to fact, (10) is felicitous which would suggest that the presupposition in (10) is not necessarily a speaker commitment. Although the argument may sound plausible, there is a peculiarity in (10), which is noticeable in the nature of the subsequent clause *because in fact, he didn't*, because it is not a contradiction, but a presupposition denial (see Geurts, 1998), i.e. a non-contradictory negation of the propositional content of the CC. What we might assume here for presupposition denial is that the speaker rather retracts the previous commitment to ϕ – caused by the semantic presupposition of *regret* – and then commits to $\neg\phi$ (see Krifka, 2015, 2022 for the idea of retraction).

In addition to the theoretical insights, Peters's observations were confirmed independently by empirical research, as done by Mazzarella et al. (2018) who investigated the hypothesis — unaware of Peters' theoretical outline — about how presuppositions, along with implicatures and assertion, relate to speaker commitments. The authors found that "the meaning-relation of implicating is taken to be less committal than both saying and presupposing (which appear to be on a par)" (Mazzarella et al., 2018, 22),

coming close to Searle & Vanderveken (1985, 91)'s assumption that both assertions and presuppositions enjoin commitments, "although unlike assertions they [= presuppositions, SB] are not overt commitments". Thus, on the basis of the empirically bolstered account by Peters, I will forthwith adopt the default that presuppositions are treated as speaker commitments.

2.2 Presupposition and conventional implicature

Peters (2016) acknowledges the fact that, in addition to presuppositions, conventional implicatures (CIs) are also speaker commitments (see also Karttunen & Zaenen, 2005; Potts, 2005, 2015).[3] This has the unpleasant but inevitable consequence that the FOS⁺-test in §2.1 does not clearly indicate whether we are only dealing with a presupposition; there is a possibility that it may also be a CI despite a positive result of the FOS⁺-test.[4] Under conditions where both categories seem plausible, we need additional tools for differentiation. Potts (2005, 2015) provides two such tools, namely the anti-backgrounding requirement, and the so-called plug test, first proposed in Karttunen (1974).

The anti-backgrounding requirement is based on the observation that both presuppositions and CIs are backgrounded content, but unlike presuppositions, CIs are infelicitous in those contexts in which the content of the CI is part of the common ground. The anti-backgrounding requirement can be broken down as follows: Let ϕ be given in the common ground and explicitly stated in the discourse. If ϕ also appears in a projection within the

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[3]Potts (2005)remarks that CIs distinguish themselves from presuppositions in that they are always speaker-oriented and remain speaker-oriented even when embedded, presuppositions do not display this property. The term speaker-orientation is not very clear in Potts (2005), as Amaral et al. (2007) point out and distillate three different ideas of how Potts understands it which he uses where they seem fit. In addition, Amaral et al. (2007) provide a barrage of arguments that even CIs are not always speaker-oriented; some examples are pragmatically biased, as they say. Looking at further comments on this, Karttunen & Zaenen (2005) demonstrate that this distinction is too strict and the differences between the two are actually small, even though they admit that sometimes, speaker-orientation is a distinctive feature. Peters (2016), referring back to Karttunen & Peters (1979), appears to treat both CIs and presuppositions as one and the same. I will not engage in this discussion in much detail here. For the present purposes, the assumption that presuppositions qualify as speaker commitments fit well into the data I will analyse in this chapter.

[4]In most cases, however, this is less tragic, including the case of embedded sentences.

discourse and turns out to be infelicitous, the projective content is a CI, if not, it is a presupposition.

To illustrate this, let us take a look at (11) from Potts (2005), where he applies the anti-backgrounding requirement to an appositive (11-a), and in (11-b) to a CC of the factive verb *know* (Kiparsky & Kiparsky, 1970, et seq.).

(11)   Lance Armstrong survived cancer.
        a.   #When reporters interview Lance, a cancer survivor, he often talks about the disease.
        b.   And most riders know that Lance Armstrong is a cancer survivor.

As the backgrounded material in conjunction with the appositive leads to an ill-formed discourse, Potts concludes that the implication of the appositive qualifies as a CI. Since no infelicity arises for the factive CC despite its propositional content being part of the common ground already, its projective content must be a presupposition.

The plug-test builds on Karttunen's (1973; 1974) original observation that presuppositions do not always project out of embedded sentences. This is particularly the case when they are embedded under so-called plugs, *viz.* predicates that block off every presupposition from projecting out of a CC, for instance (Karttunen, 1973, 174). Among these plugs are verbs of communication, e.g. *say, mention, tell, ask, promise.* The crucial point regarding CIs and presuppositions is the following: Unlike the latter, the former projects out of embedded sentences, regardless of whether they are embedded under a plug or not, and are assigned to the speaker. Take the semi-factive verb *realize* in (12-a) that presupposes *it is raining.* Its presupposition vanishes when (12-a) is further embedded under the plug *say*, as in (12-b). Note that the speaker can now undertake a commitment to *it is not raining*, without having inconsistent commitments.

(12)   a.   Sue realized that it was raining.
        b.   Ed said that Sue realized that it was raining. Later, we found out that Ed's report was wrong. Sue can't have realized it was raining, because it wasn't.

The following vignette in (13) is also from Potts (2005).

(13)   Ed said that, as Sue predicted, it is raining. #But in fact Sue didn't predict rain.

Here, the speaker uttering (13) appears to be committed to both ⟦Sue predicted rain⟧ and ⟦Sue didn't predict rain⟧, resulting in inconsistent commitments. Of course, Ed is also committed to *it is raining*, but not *qua* presupposition but *qua* a previous speech event where he asserted that it was raining. In any case, uttering (13) qualifies *Sue predicted rain* as a CI because unlike the presupposition in (12), a CI projects regardless of being embedded under the plug *say*. Hence, the speaker commitment to ⟦Sue predicted rain⟧ persists and the subsequent commitment to ⟦Sue didn't predict rain⟧ renders the discourse in (13) pragmatically deviant.

To conclude, while presuppositions and CIs both enjoin speaker commitments, they nonetheless differ in terms of whether the projected content can be plugged or not. While CIs are not hindered in their projection by plugs or filters, presuppositions are.

2.3   The relevance of *origo*

The application of the plug test in (12-b) reveals that the lexically triggered presupposition *it was raining* cannot be assigned to the reporting speaker, i.e. the person uttering Ed's speech report in (12-b). However, if presuppositions are what Peters calls speaker commitments, to whom do we assign the commitment to ⟦it was raining⟧ if not to the reporting speaker? A plausible candidate is the referent of the matrix subject (Ed) as the speaker reports with (12-b) that Ed uttered *Sue realized that it was raining* at some point in the past. Since *it was raining* is presupposed, it is Ed who committed to ⟦it was raining⟧, which identifies him as the 'speaker'.[5] In such a case, calling Ed the 'speaker' could give rise to indexical ambiguity. To avoid such an ambiguity, we will use the more neutral term *origo* to clearly mark the source of a speaker commitment (see also Sauerland & Schenner, 2007; Sode & Truckenbrodt, 2018 for uses of the term *origo* in similar senses and Damourette & Pichon, 1971 for the idea of a separation between speaker and protagonist). With *origo*, we refer to the author or illocutionary seat of an utterance from which a commitment originally flows. We can best identify the *origo*

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[5]One might provisionally might call it a '(reported) speaker commitment'

through commitment inconsistencies with respect to the uttered or presupposed content in a given discourse fragment. To illustrate this, let us look at the examples in (14) and (15).

(14)   Ed said that the king of France is bald,

      a.   but there is no king of France.

      b. #but according to Ed, there is no king of France.

(15)   The king of France is bald,

      a. #but there is no king of France.

      b.   but according to Ed, there is no king of France.

The presupposed proposition ϕ = ⟦there is a king of France⟧ in both (14) and (15) is a speaker commitment. In (14), the *origo* is not the person uttering (14) but Ed because unlike Ed (14-a), the speaker can be committed to $\neg\phi$ = ⟦there is no king of France⟧ without having inconsistent commitments (14-b). The speaker merely reports on Ed's commitment but is not the *origo* of the presupposition ϕ. In other words, it is not the speaker but Ed who presupposes the existence of the king of France.[6] In the contrastive case (15), the speaker utters 'the king of France is bald' and is thus identified as its *origo* because the speaker can only be committed to ⟦there is no king of France⟧ at the pain of self-contradiction (15-a), compared to a third party that could be committed to $\neg\phi$ without any such inconsistencies (15-b). Thus, whoever utters (15) *owns* the presupposition and is committed to ϕ, thus identifying themselves as the *origo*. Put differently, the *origo* is the individual handing out warrants on which their commitments are recorded. In closing, I briefly want to outline recent observations in the literature that emphasise presuppositions in embedded clauses under communicative verbs being assigned to the referent of the matrix subject; the individual we identify as the *origo*.[7]

    The assumption of communication verbs qualifying as plugs that block projections faced early criticism, particularly in the case of embedded questions, where presuppositions are not always blocked (Permesly, 1973; Spec-

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[6]Another case that marks Ed as the *origo* is the quotative paraphrase of (14), i.e. Ed: "The king of France is bald.".

[7]Note the exception when reporting speaker and referent of the matrix subject coincide, i.e. performative cases.

tor & Egré, 2015; Uegaki, 2015). Recently, Gonzalez et al. (2023, 257) have argued that presuppositions within complement clauses (CCs) "need not project to the speaker's beliefs. Instead, they project into what we dub the attitude holder's 'presented beliefs.'" Accordingly, while presuppositions embedded under verbs such as 'say' do project beyond the CC-boundary, they are filtered and attributed not to the speaker, but to the referent of the matrix subject or, in our terminology, to the *origo*. This pattern is evident in examples (12-b) and (14), where in (14), the *origo* is Ed, for instance, and as such, it is Ed who is committed to ⟦there is a king of France⟧, not the speaker uttering (14), as the follow-ups (14-a) and (14-b) confirm. Moreover, what Gonzalez et al. refer to as 'presented beliefs' can plausibly be interpreted as commitment as it aligns with the view that commitments are, by default, often conceived as expressions of mental states (see Gunlogson, 2001; De Brabanter & Dendale, 2008). In any case, it still accommodates the assumption that presuppositions are speaker commitments insofar that it is the *origo*, i.e. the 'original speaker', to whom the presupposition can be traced.

We can further adapt the reasoning from Gonzalez et al. (2023) where they propose an example that includes a presupposition trigger such as 'also', as in (16), marked with boldface.

(16)   Max me   dit   [que Zoé **aussi** a
       Max 1P.SG.DAT say.3P.SG.IND that Zoé also   have.3P.SG.IND
       acheté   du   lait].
       buy.PPRT of-the milk
       'Max said to me that Zoé **also** bought some milk.'
       (*French*, *apud* Gonzalez et al., 2023, 257)

We can tailor this pattern to the idea of presupposition as speaker commitments. On this view, the presupposition would be a commitment that is mapped to the *origo*. Let us assume the following scenario in Catalan (17) where the speaker commits to a proposition in (17-a) and (17-b), respectively, that contradicts the presupposed content in (17).

(17)   En Joan em   diu   [que la   Maria també
       the Joan 1P.SG.DAT say.3P.SG.IND that the Maria also
       ha   comprat llet]. Però això no és   veritat:
       have.3P.SG.IND buy.PPRT milk but   that not be.3P.SG.IND truth

'Joan says that Maria also bought milk. But that's not true:'

a.   ningú   no ha   comprat llet.
     nobody not have.3P.SG.IND buy.PPRT milk
     'nobody bought milk.'

b.   només en Joan ha   comprat llet.
     only   the Joan have.3P.SG.IND buy.PPRT milk
     'only Joan has bought milk.'

(*Catalan*)

In (17), Joan makes a claim, namely that Maria also bought milk. Note here that *també* ('also') triggers a presupposition, namely ⟦someone else besides Maria has bought milk⟧. If we would assume that the presupposition is mapped to the speaker uttering (17), we would expect (17-a) and (17-b) to be infelicitous due to inconsistent commitments. (17-a) should have been infelicitous because the assertion would commit the speaker to ⟦nobody has bought milk⟧, which contradicts the presupposed content in (17). The same would have to hold for (17-b), committing the speaker to ⟦only Joan and nobody else bought milk⟧, again contradictory to the presupposition in (17). However, neither of the two follow-ups are infelicitous after uttering (17). The explanation here is that the presupposition is mapped to the *origo*, i.e. the person who 'owns' the presupposition, which in this case is not the speaker uttering (17), but Joan. In other words, it is Joan who is committed to ⟦someone else besides Maria bought milk⟧.

To summarize this section, we examined a specific case in which the notion of the 'speaker' gives rise to certain metapragmatic complications, namely, lexical ambiguities such as those illustrated in examples like (12-b). To address this issue more transparently, we introduced the auxiliary term *origo* to unambiguously identify the 'owner' of the relevant presupposition – and thus of the associated commitment. In contexts where speaker assignment is less straightforward, the use of *origo* helps clarify who the 'speaker' is when we are discussing the notion of speaker commitments, thereby preserving Peters's (2016) original conception of presuppositions as speaker commitments. The cases discussed in this section demonstrate that the utterer of a sentence does not necessarily align with the *origo*, which provides the central motivation for adopting this term in the intended sense. However, in most cases, *origo* and 'speaker' coincide and no such issue arises.

3   Speaker commitments in mood alternation

3.1   Non-factive verbs

3.1.1   Indicative and speaker commitments

Just like verbs of communication, cognitive verbs under negation such as Catalan *creure, pensar* or Spanish *creer, pensar* allow for both indicative and subjunctive CCs. (18) is an example for mood alternation under *no creure* from Quer (1998), (19) for *no creer* from Montero & Romero (2023).

(18)   El degà no creu   que els estudiants es
        the dean not believe.3P.SG.IND that the students   REFL

        mereixin /   mereixen   un premi.
        deserve.3P.PL.SBJV deserve.3P.PL.IND a   prize
        'The dean doesn't believe that the students deserve a prize.'
        (*Catalan*, Quer, 1998)

(19)   Álex no cree   que Dani sea /   es
        Álex not believe.3P.SG.IND that Dani be.3P.SG.SBJV be.3P.SG.IND

        inteligente.
        intelligent
        'Álex doesn't believe that Dani is intelligent.'
        (*Spanish*, Montero & Romero, 2023)

It has been sufficiently argued that mood alternation in such cases are not a matter of free choice but subject to different interpretations (Bosque, 1990; Borgonovo, 2003; Quer, 1998, 2001, 2009, 2010, 2016, 2021; Faulkner, 2021a). Quer (1998, 60) succinctly pinpoints it as follows: "[...]the difference between the two variants [= indicative and subjunctive CCs, SB] is that with the indicative the truth of the propositional content of the complement is presupposed by the speaker [...]." Although Quer does not spell out exactly what he means here by *presupposed by the speaker*, it comes close to the dispositional view of a speaker presupposition from Stalnaker (1973, 448):

> A speaker presupposes that *P* at a given moment in a conversation just in case he is disposed to act, in his linguistic behavior, as if he takes the truth of *P* for granted, and as if he assumes that his audience recognizes that he is doing so.

This, as Stalnaker (1973, 451) continues, extends naturally to sentence pre-suppositions and their requirement of a speaker presupposition.

> A sentence has a presupposition just in case the use of that sentence would for some reason normally be inappropriate unless the speaker presupposed a particular proposition. In such a case [...] a sentence requires a presupposition. This notion of presupposition requirement will be the explication of the linguists' notion of presupposition.

Accordingly, sentence presupposition and speaker presupposition are not only interrelated but the former can even be reduced to the latter, if we assume Stalnaker's idealized point of utterance, which he takes to be right after the utterance event, but right before it has been accepted or rejected. Simons (2003, 267) summarizes this as follows:

> So to say that a sentence S presupposes p is not to say that its appro-priate utterance requires the speaker to presuppose p at the time of utterance, but to presuppose p at the idealized post-utterance point. This moves the nuance out of the characterization of speaker presup-position and into the characterization of sentence presupposition – which Stalnaker anyway thinks is not a notion to be defined in the theory. On this view, sentence presupposition can be reduced to the simple notion of speaker presupposition, as long as we are willing to admit the idealized point that Stalnaker refers to.

The quintessence for us here is that (18) or (19) with an indicative CC ϕ can only be asserted if the speaker presupposes its propositional content ϕ. Since we treat presuppositions as speaker commitments, the indicative CC ϕ reflects two things, namely (i) its utterance requires that the speaker is committed to ϕ and (ii) when uttered, it signals that the speaker is committed to ϕ. Thus, a speaker can only felicitously assert (19) with the indicative CC ϕ if (s)he is also committed to ϕ, otherwise the presupposition requirement is not fulfilled and the overall assertion misfires.

To further corroborate the presence of a speaker presupposition, we can apply the so-called Hey wait a minute!-test (shorthand: HWAM-test, Shan-non, 1976; von Fintel, 2004; von Fintel & Matthewson, 2008). von Fintel & Matthewson (2008) highlight that a hearer can appropriately react by saying something along the lines of 'Hey wait a minute, I didn't know that ϕ!' to scan for speaker presuppositions that are not in the Common Ground (von

Fintel, 2004; von Fintel & Matthewson, 2008; Pearson, 2010)[8]. In (20), the HWAM-test for Catalan and Spanish would correspond to *Ep! Un moment! No sabia que φ*, or *¡Eh! Un momento! No sabía que φ*, respectively.[9]

(20)   a.   El degà no creu   que els estudiants es
            the dean not believe.3P.SG.IND that the students   REFL
            mereixen   un premi.
            deserve.3P.PL.IND a   prize
            'The dean doesn't believe that the students deserve a prize.'
      b.   Ep! Un moment! No sabia   que
            INJ a   moment not know.1P.SG.IND.IMPF that
            merexeissin   un premi.
            deserve.3P.PL.SBJV.PST a   prize
            ~'Hey, wait a minute! I didn't know that they deserved a prize.'
       (*Catalan*)

(21)   a.   Álex no cree   que Dani es   inteligente.
            Álex not believe.3P.SG.IND that Dani be.3P.SG.IND intelligent
            'Álex doesn't believe that Dani is intelligent.'
      b.   ¡Eh! ¡Un momento! No sabía   que
            INJ a   moment   not know.1P.SG.IND.IMPF that
            fuera   inteligente.
            be.3P.SG.SBJV.PST intelligent
            ~'Hey, wait a minute! I didn't know that he was intelligent.'
       (*Spanish*)

Applying the HWAM-test to the indicative sentences in (18) and (19), we can confirm that, according to the felicity in both (20) and (21), these pre-

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[8]This test was not employed by Quer (1998). Although Quer shows with other tests that the suspicion of a presupposition is definitely given, these are not entirely sufficient according to the current status, especially since – as Quer (1998) acknowledges – the possibility of a CI still remains. The use of the FOS-test, as we will see below, is also only a necessary but not sufficient criterion for a presupposition.

[9]Alternatively, one may opt for *Ep! Para el carro! No sabia que φ* or *¡Eh! Para el carro! No sabía que φ*. However, these suggest a stronger objection and are less faithful to the original.

suppositions would indeed qualify as speaker presuppositions.[10]   In con-
trast, the application of the HWAM-test is not successful when the CC is
in the subjunctive because the content of the CC is not presupposed by the
speaker, as Quer (1998, 62) stresses.

(22) a.   El degà no creu   que els estudiants es
           the dean not believe.3P.SG.IND that the students   REFL
           mereixin   un premi.
           deserve.3P.PL.SBJV a   prize
           'The dean doesn't believe that the students deserve a prize.'
      b.   #Ep! Un moment! No sabia   que
           INJ a   moment   not know.1P.SG.IND.IMPF that
           merexeissin   un premi.
           deserve.3P.PL.SBJV.PST a   prize
           ~'Hey, wait a minute! I didn't know that they deserved a prize.'
        (*Catalan*)

(23) a.   Álex no cree   que Dani sea
           Álex not believe.3P.SG.IND that Dani be.3P.SG.SBJV
           inteligente.
           intelligent
           'Álex doesn't believe that Dani is intelligent.'
      b.   #¡Eh! ¡Un momento! No sabía   que
            INJ a   moment   not know.1P.SG.IND.IMPF that
           fuera   inteligente.
           be.3P.SG.SBJV.PST intelligent
           ~'Hey, wait a minute! I didn't know that he was intelligent.'
        (*Spanish*)

According to Quer (1998), the presuppositional status of the embedded in-
dicative is also evidenced through the contrast between the respective con-
tinuations of indicative (24) and subjunctive complements (25) which al-
ready further underlines Peters (2016)'s claim of presuppositions as speaker
commitments. Let us first look at the indicative CC and their respective

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[10]Even though, as Pearson (2010, 7) remarks, a speaker presupposition "asymmetrically
entail[s] a semantic presupposition", we can safely rule out a semantic presupposition as we
do not find any triggers that would do so.

follow-ups laid out in Quer (1998). After uttering (24), the speaker expresses either that (s)he believes ϕ – the propositional content of the CC – as done in (24-a), or disagrees and expresses disbelief of ϕ. Note that only (24-a) is felicitous, whereas (24-b) results in infelicity.

(24)   El degà no creu   que els estudiants es
        the dean not believe.3P.SG.IND that the students   REFL
        mereixen   un premi
        deserve.3P.PL.IND a   prize
        'The dean doesn't believe that the students deserve a prize.'

    a. pero jo   crec   que sí.
        but   1P.SG.NOM believe.1P.SG.IND that yes
        'but I believe they do.'

    b. #i   jo   tampoc no ho   crec
        and 1P.SG.NOM neither not 3P.SG.NEUT.ACC believe.1P.SG.IND
        'and I don't believe it either.'

    (*Catalan*, Quer, 1998, 60)

If we follow Peters (2016), the speaker would be committed to ϕ *qua* presupposition and as such, the follow-up (24-b) which is a commitment of the speaker to not believing ϕ is inconsistent with the the commitment to ϕ that is caused by the presupposition. In contrast, both follow-ups are possible when the CC carries a subjunctive which suggests the lack of a speaker presupposition. This in turn allows the speaker to undertake the commitment to a proposition that contradicts the propositional content of the CC of *creure* without having inconsistent commitments.

(25)   El degà no creu   que els estudiants es
        the dean not believe.3P.SG.IND that the students   REFL
        mereixin   un premi
        deserve.3P.PL.SBJV a   prize
        'The dean doesn't believe that the students deserve a prize.'

    a. pero jo   crec   que sí.
        but   1P.SG.NOM believe.1P.SG.IND that yes
        'but I believe they do.'

    b. i   jo   tampoc no ho   crec
        and 1P.SG.NOM neither not 3P.SG.NEUT.ACC believe.1P.SG.IND

'and I don't believe it either.'
(*Catalan*, Quer, 1998, 60)

All these preliminary observations already play well into the observations by Peters (2016). However, we need to pay our attention to (24) first. Here, we can underscore the speaker's commitment to the indicative CC and rule out conversational implicatures already. Why? Because as we have learned in §2.1, preventing implications does not result in infelicity, contrary to what happened in (24), for instance. Furthermore, we can apply Peters's FOS⁺-test here and definitely rule out conversational implicatures. (26) is an expansion of Quer (1998)'s FOS-test which would not have ruled out conversational implicatures.[11]

(26)   a.   No creuen   [que el   degà els
              not believe.3P.PL.IND   that the dean 3P.PL.DAT
              fa   costat], #i   és   que no els
              make.3P.SG.IND backing   and be.3P.SG.IND that not 3P.PL.DAT
              en fa,   de costat.
              of make.3P.SG.IND of backing
              'They do not believe that the dean is backing them up, but he
              doesn't back them up.'

        b.   No és   cert   que no creguin   [que el
              not be.3P.SG.IND correct that not believe.3P.SG.SBJV   that the
              degà els   fa   costat], #però és
              dean 3P.PL.DAT make.3P.SG.IND backing   but   be.3P.SG.IND
              que no els   en fa,   de costat.
              that not 3P.PL.DAT of make.3P.SG.IND of backing
              'It is true that they do not believe that the dean is backing them
              up, and he is not backing them up.'

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[11]In Quer (1998)'s original example, the embedding verb is *veuen* ('they see'). The outcome of the FOS-test, however, is the same. Note as well that *no creure* does not act as a plug here. The matter is a bit more complicated, as Karttunen (1973) admits. Discussing English *believe*, he arrives to the conclusion that attitude verbs may function as plugs, even though there are also good reasons to assume that they are holes. In our case here as we will see below, *creure* seems to act as a hole. I will remain agnostic on that point.

c.   No creuen [que el degà els   fa   costat]?
     not believe that the dean 3P.PL.DAT make.3P.SG.IND backing
     #O és   que no els   en fa,   de
      or be.3P.SG.IND that not 3P.PL.DAT of make.3P.SG.IND of
     costat?
     backing
     'Don't they believe that the dean is backing them up? Or is he
     not backing them up?'

d.   Si no creuen   [que el degà els
     if not believe.3P.PL.IND that the dean 3P.PL.DAT
     fa   costat]...; #i és   que no
     make.3P.SG.IND backing   and be.3P.SG.IND that not
     els   en fa,   de costat.
     3P.PL.DAT of make.3P.SG.IND of backing
     'If they don't believe that the dean is backing them up...; but he
     is not backing them up'

e.   Potser no creuen   [que el degà els
     maybe not believe.3P.SG.IND that the dean 3P.PL.DAT
     fa   costat] #i és   que no els
     make.3P.SG.IND backing   and be.3P.SG.IND that not 3P.PL.DAT
     en fa,   de costat.
     of make.3P.SG.IND of backing
     'Maybe they don't believe that the dean is backing them up, but
     he is not backing them up.'

   (*Catalan*)

Despite from ruling out implicatures, we are not done yet as we should also
be aware that until now, the FOS$^+$-test stil leaves still open whether the CC is
a CI or a presupposition as both enjoin speaker commitments; we have only
proven so far that the speaker is committed to ϕ. Why is this relevant? Quer
(1998, 62) mentions in passing that the embedded content with an indicative
as in (24) may also qualify as a conventional implicature. At that time, many
presuppositions were also considered conventional implicatures (see, for in-
stance, Karttunen & Peters, 1979). Given that we now have a better under-
standing of the differences between CIs and presuppositions became more
distinguishable, can Quer's assumption still be right? Equipped with Potts's
tests for conventional implicatures as laid out in §2.2, the CI hypothesis will

turn out to be untenable. Starting with the anti-backgrounding requirement, we notice that (27-c) turns out felicitous with the previous (backgrounding) utterance given in (27). The same can be observed for factive complements that semantically presuppose their CCs (27-b). This tells us that the CC in (27-c) is presupposed rather than conventionally implicated; unlike (27-a) which indeed qualifies as a conventional implicature.

(27)   Els estudiants es   mereixen   el premi.
        the students   REFL deserve.3P.PL.IND the prize
        'The students deserve the prize.'
        a.   #Els estudiants, mereixedors d'el   premi, estan   molt
             the students   deservers   of-the prize be.3P.PL.IND very
             orgullosos de si   mateixos.
             proud   of REFL same
             'The students, deserving of the award, are very proud of them-
             selves.'
        b.   I   la majoria dels   professors ho
             and the majoria of-the professors 3SG.NEUT.ACC
             saben,   que es   mereixen   el premi.
             know.3P.PL.IND that REFL deserve.3P.PL.IND the prize
             'And most professors know that they deserve the prize.'
        c.   Però el degà no ho   creu,   que
             but   the dean not 3P.SG.NEUT.ACC believe.3P.SG.IND that
             se'l   mereixen.
             REFL-3P.SG.M.ACC deserve.3P.PL.IND
             'But the dean does not believe that they deserve it.'
        (*Catalan*)

We arrive at the same conclusion by applying the plug test. Here, we embed (24) under a plug, *dir* ('say'), to prevent the implication from projecting.

(28)   En Joan diu   que el degà no creu   que els
        the Joan say.3P.SG.IND that the dean not believe.3P.SG.IND that the
        estudiants es   mereixen   el premi
        students   REFL deserve.3P.PL.IND the prize
        'Joan says that the dean doesn't believe that the students deserve a
        prize,'

a. però de fet, no se'l   mereixen,   el
    but of fact not REFL-3P.SG.M.ACC deserve.3P.PL.IND the
    premi.
    prize
    'but in fact, they don't deserve the prize.'
b. i   estic   d'acord   amb el degà; no
    and be.1P.SG.IND of-accord with the dean not
    se'l   mereixen.
    REFL-3P.SG.M.NOM deserve.3P.PL.IND
    'and I agree with the dean; they don't deserve it.'
c. i   jo   tampoc no ho   crec.
    and 1P.SG.NOM neither not 3P.SG.NEUT.ACC believe.1P.SG.IND
    'and I don't believe it either.'
(*Catalan*)

Note here that in (28), the *origo* of the presupposition 'the students deserve a prize' is Joan, not the speaker uttering (28). Variants that express the speaker being committed to *the students don't deserve a prize* ((28-a)-(28-b)) or the speaker's disbelief of the complement (28-c) - equivalent to (24-b) – yield a well-formed discourse, thus showing that the content neither projects, nor does it commit the speaker to the embedded content any more as the author of (28) does not qualify as the *origo* of the propositional content of the CC. In (25-b), we have already seen that there can presumably be no speaker commitment involved as the speaker may undertake commitment to the propositional content that would contradict the CC carrying the subjunctive without resulting in inconsistent speaker commitments. For the sake of completeness, we apply the FOS$^+$-test to the subjunctive cases to remove all doubt that there is any speaker commitment involved.

(29) a. No creuen   [que el degà els
          not believe.3P.PL.IND that the dean 3P.PL.M.DAT
          faci   costat], i   és   que no
          make.3P.SG.SBJV backing and be.3P.SG.IND that not
          els   en fa,   de costat.
          3P.SG.M.DAT of make.3P.SG.IND of backing
          'They do not believe that the dean is backing them up, but he doesn't back them up.'

    b.   No és   cert   que no creguin   [que el
           not be.3P.SG.IND correct that not believe.3P.PL.SBJV that the
           degà els   faci   costat] però és
           dean 3P.PL.M.DAT make.3P.SG.SBJV backing but   be.3P.SG.IND
           que no els   en fa,   de costat.
           that not 3P.PL.M.DAT of make.3P.SG.IND of backing
           'It is not true that they do not believe that the dean is backing
           them up, and he is not backing them up.'

    c.   No creuen   [que el   degà els
           not believe.3P.PL.IND that the dean 3P.PL.M.DAT
           faci   costat]? O és   que no
           make.3P.SG.SBJV backing or be.3P.SG.IND that not
           els   en fa,   de costat?
           3P.PL.M.DAT of make.3P.SG.IND of backing
           'Don't they believe that the dean is backing them up? Or is he
           not backing them up?'

    d.   Si no creuen   [que el   degà els
           if not believe.3P.PL.IND that the dean 3P.PL.M.DAT
           faci   costat]...; i   és   que no
           make.3P.SG.SBJV backing and be.3P.SG.IND that not
           els   en fa,   de costat.
           3P.PL.M.DAT of make.3P.SG.IND of backing
           'If they don't believe that the dean is backing them up...; but he
           is not backing them up'

    e.   Potser no creuen   [que el   degà els
           maybe not believe.3P.PL.IND that the dean 3P.PL.M.DAT
           faci   costat], i   és   que no
           make.3P.SG.SBJV backing and be.3P.SG.IND that not
           els   en fa,   de costat.
           3P.PL.M.DAT of make.3P.SG.IND of backing
           'Maybe they don't believe that the dean is backing them up, but
           he is not backing them up.'

   (*Catalan*)

Thus, we confirm Quer (1998) in that no presuppositions are found in sub-
junctive CCs because there aren't any inconsistent speaker commitments at
play. In sum, we have shown that indicative CCs – unlike subjunctive CCs –

are indeed (pragmatically) presupposed and not conventionally implicated. In any case, we have demonstrated for the case of mood alternation under *no creure* that indicative CCs mark speaker commitments.

3.1.2 Not always a speaker commitment?

Recently, Montero & Romero (2023) proposed a stronger claim on the relation between speaker commitments and embedded indicatives. Their study on Spanish subjunctives is rather explorative in nature and aims to test the robustness of whether mood choice under negated predicates triggers any semantic effects in terms of what they call speaker commitments. To do so, they looked at complements of non-factive and factive verbs, as well as verbs of imagination and fiction. The relevant class we want to pay most attention to is that of non-factive verbs that are comprised of the following verbs: *decir* 'say', *contar* 'tell', *pensar* 'think', *creer* 'believe' and *sospechar* 'suspect'. Out of these verbs, we will be particularly interested in *creer* and *decir*.[12] In their experiment, participants were presented testing constructions such as (31-a), following the general template in (30) with alternating indicative and subjunctive complements. The testing constructions are presented to the participant without any further context and are additionally followed-up by a polar question asking about the truth of the CC (31-b). Of course, the authors always tested both cases with indicative and subjunctive separately and not in the way displayed in (30).

(30)   SUBJECT didn't VERB [that ϕ.IND/SBJV]

(31)   a.   Gerardo no creía   que su vecino
              Gerardo no believe.3P.SG.IND.IMPF that his neighbour
              estaba /   estuviera   mintiendo.
              be.3P.SG.IND.IMPF be.3P.SG.SBJV.PST lie.GER
              'Gerardo didn't believe that his neighbour was.IND/SBJV lying.'
        b.   ¿Estaba   su vecino   mintiendo?
              be.3P.SG.IND.IMPF his neighbour lie.GER
              'Was his neighbour lying?'
        (*Spanish*, test item from Montero & Romero, 2023)

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[12]There have been numerous discussions about *tell* qualifying it as a factive verb (Gazdar, 1979; Berman, 1991; Uegaki, 2015; Spector & Egré, 2015). See also §2.2.

The overall result of their study is that the indicative CCs of negated factive verbs signal high speaker commitment, whereas CCs of negated non-factives and verbs of imagination and fiction signal low speaker commitment. Thus, they conclude that embedded indicatives of their non-factive verbs in the setup of (31-a) do not mark speaker commitments across the board because, as their results and statistical analysis suggest, the rate of positive responses do not display significant differences in the indicative and subjunctive conditions (Montero & Romero, 2023, 223, 231). While it might seem conclusive at first sight to say that embedded indicatives under negated non-factive verbs do not display speaker commitments, it is equally plausible to argue in the other direction. I will do so by pointing out some issues related to their study design and their conceptualization of *commitment*, especially when zooming in more into their non-factive verbs. First, however, we need to make a small remark on the permeability of presuppositions that some of their non-factive predicates in their test items show. The contrast between *decir* and *creer* should serve as an example.

   A note on presupposition permeability Even though the members of Montero & Romero's set of non-factive verbs are homogenous in that they aren't triggers of semantic presuppositions, they are less homogenous in terms of their presupposition permeability, i.e. their property of letting the presupposition project out of its CC. This is particularly evident in Quer's (1998) Catalan case (24) with *creure* ('to believe') as we have discussed before in §3.1.1, where the propositional content of a CCs of (some) non-factives can qualify as speaker presuppositions. This is not limited to Catalan as we can transpose Quer's example (24) to Spanish (32) with the same outcome.

(32)   El decano no cree   que los estudiantes se
       the dean   not believe.3P.SG.IND that the students   REFL
       merecen   un premio, #y yo   tampoco
       deserve.3P.PL.IND a   prize   and 1P.SG.NOM neither
       lo   creo.
       3P.SG.NEUT.ACC believe.1P.SG.IND
       ~'The dean doesn't believe that the students deserve a prize, and I
       don't believe it either.'
       (*Spanish*)

The infelicity of the follow-up *y yo tampoco lo creo* in (32) discloses three things that are relevant for our later discussion: (i) The matrix verb *no creer*

behaves as a hole[13,14] that lets a presupposition pass through, (ii) this (speaker) presupposition is a speaker commitment, (iii) whoever utters (32) is the *origo*, the individual that 'owns' the presupposition, so to speak.

Let us now look at *decir*. From §2.3 onward, it should not come as a surprise that *no decir* behaves differently in terms of permeability of presuppositional content. Let us assume that a speaker utters (33).

(33)   El decano no ha   dicho   que los estudiantes se
       the dean   not have.3P.SG.IND say.PPRT that the students   REFL
       merecen   un premio, y   de hecho, no lo
       deserve.3P.PL.IND a prize   and of fact   not 3P.SG.NEUT.ACC
       merecen.
       deserve.3P.PL.IND
       'The dean didn't say that the students deserve a prize, and in fact,
       they don't deserve it.'
       (*Spanish*)

Here, the speaker is denying[15] the proposition that the dean said that the students deserve a prize. Due to the felicity of the follow-up that displays a commitment to the negative of the CC of *no haber dicho*, we can exclude a speaker commitment to the CC. Even if the CC of *no haber dicho* in (33) would contain a semantically triggered presupposition (e.g. *qua* a definite description or *también*, 'also') and thus qualify as a speaker commitment, the *origo* of the presupposition would always be the dean, but never the speaker uttering (33), thus committing the dean but not the speaker to the presupposed content within the CC. [16] This is because unlike *no creer*, verbs

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[13] For discussions for English *believe*, see Karttunen (1973, 1974); Gazdar (1979). The internal negation in *no creer* also functions as a hole which does not prevent the projection from escaping, unlike external negation would (Karttunen, 1973, 187).

[14] While not a commitment, a disbelief of ϕ is inconsistent with a commitment to ϕ (see Krifka, 2022).

[15] As we have seen, the case of *no haber dicho* is more complex and (33) qualifies as a case of proposition denial (Geurts & van der Sandt, 2004; Geurts, 1998). Since we cannot take that the content is necessarily presupposed, assuming metalinguistic negation (Horn, 1985) would not be able to cover enough ground as it is limited to presuppositions.

[16] See (14-b) in §2.3 or (17) in §2.3 for such a cases where the speaker is not committed to the existential presupposition of a definite description within the CC.

of communication behave as filters that map the content to the referent of the matrix subject (Gonzalez et al., 2023), as briefly laid out in §2.3. We can see that this lack of automatism of assigning the *origo* to the speaker uttering (33) displays a crucial difference to *no creer* in (32) which behaves more as a hole that lets the projection pass through.

In this view, the conclusion for *decir* is congruent with the considerations in Montero & Romero that indicatives under *no decir* do not (necessarily) involve speaker commitments in the sense that whoever utters (33) would be committed to the presupposed content within the CC. This is due to *decir* acting as a filter. However, we part ways in the case of *(no) creer* because *(no) decir* displays different properties in terms of presupposition permeability. But according to Montero & Romero, all indicative CCs of (negated) non-factives, even *no creer*, do not involve speaker commitments which would predict (32) to be acceptable, contrary to fact.[17] We believe that this overlooked will turn out to be problematic in the experimental design that especially touches upon those non-factive verbs that behave as holes, as we will address in the following.

Unattended *origo* shift Another potential issue with the experiment is that the instructions of the study for the participants were minimal, and the testing constructions were not embedded in any context whatsoever. This is not without consequences for the course of the study. The most crucial one is that Montero & Romero's testing constructions become ambiguous in terms of speaker-attribution, i.e. participants are ignorant as to whether they should place themselves in the shoes of a speaker or an addressee when being presented an item such as (31).[18]

Such a lack of speaker-attribution leads to shifty interpretations that do not leave the *origo* untouched either, giving participants to interpret the sentences such as (31-a) in two distinct ways: (i) they either assume that they are the ones uttering the sentence and thus map the pragmatic presupposi-

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[17]The only possibility for (32) to be acceptable would be to overtly map the indicative to a third party by an reportative evidential expressions such as *como {dicen, defienden, creen} los estudiantes*, as we will argue later in §3.1.3.

[18]Thomas Weskott (p.c.) remarks that a complete lack of speaker-attribution as well as setting up a proper background in such study designs are highly problematic. The importance of speaker attribution has been subject to discussion in Amaral et al. (2007); Harris & Potts (2009), for instance.

tion that flows from it to themselves and turn themselves into the *origo*, or, (ii) a third party made the utterance such that the presupposition is mapped to whoever the participant imagines to assume the role of the speaker that uttered (31-a), thus turning the third party into the *origo*. This surely affects the overall commitment attribution as in the latter case, unlike the third party who presumably uttered the sentence, the participant is not committed to the propositional content of the CC.[19] The two interpretations could thus materialise as (34) or (35), respectively. Their contexts serve as an orientation to elicit the respective readings of shifted speaker/*origo* attribution.

(34)   *You discuss whether Gerardo's neighbour was lying or not, and you say to your friend Juan:*

    a.   Gerardo no creía   que su vecino
           Gerardo not believe3P.SG.IND.IMPF that his neighbour
           estaba   mintiendo.
           be.3P.SG.IND.IMPF lie.GER
           'Gerardo didn't believe that his neighbour was lying.'
           [participant = *origo*, participant must be committed to ϕ]
     (*Spanish*)

(35)   *You discuss whether Gerardo's neighbour was lying or not, and your friend Juan says to you:*

    a.   Gerardo no creía   que su vecino
           Gerardo not believe3P.SG.IND.IMPF that his neighbour
           estaba   mintiendo.
           be.3P.SG.IND.IMPF lie.GER
           'Gerardo didn't believe that his neighbour was lying.'
           [participant ≠ *origo*, participant needn't be committed to ϕ]
     (*Spanish*)

As we can already see, even though the speaker presupposition is always there with an indicative, it is mapped to Juan (35) in one case, and to the (experiment's) participants in the other (34), depending on who the *origo* of

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[19]This expands the concept of a speaker, but is a consequence of the speaker position not being clearly defined. Here, the 'speaker' is some other third illocutionary agent and the participants are confronted with a report of that illocutionary agent's speech event so to speak which again boils down to the issue discussed in §2.3.

the respective presupposition in the sentence is; in either case we identify the speaker as a different person. This deicitic issue could have easily been controlled for with a proper context. However, as Montero & Romero did not do that, the ambiguity of plausibly interpreting the items as either (35-a) or (34-a) gives rise to speculation whether Montero & Romero's results have to be seriously questioned in terms of speaker commitments for this particular case. The problem becomes even more obvious when we consider the follow-up question in their test items such as (31-b), which, in the absence of a context and thus clear speaker attribution, makes both answers appear plausible. Thus, Montero & Romero's conclusion about non-factives when they say that "even if we use the indicative, there is no speaker commitment" (2023, 224) could be due to the effect of an unattended *origo* shift that skewed the overall results. It can be expected that with a context that anchors the *origo* to a clear referent, results would differ significantly for cases of non-factives that behave as holes.

This is exactly why Quer's example is better suited for this analysis. No matter who is treated as the *origo* (the deictic center, 'perspective holder', individual that 'owns' the presupposition), whether it's the participant themselves or a third party, they end up with conflicting commitments when uttering sentence (24). Without clear contextual cues that anchor the utterance to a specific speaker – a setup like 'You say...' in (34) or 'Juan says to you...' in (35) – there's room for variation in interpretation. The deictic center (the *origo*) can shift: it might align with the speaker (the participant) or with someone else, as in a third-person report. Because of this ambiguity, it is possible that what Montero & Romero (2023) describe as speaker commitments are not consistently triggered. This, in turn, might influence the data: it could make it appear that indicative forms in the complement of *creer* systematically reflect speaker commitment, even though that interpretation might be skewed by unclear contextual anchoring. This is most apparent in those cases where the presupposition is passed through, such as *creer* or *pensar*, less so for *decir* or *contar* that filter the presupposition out and map it to the referent of the matrix subject. Note equally that the issue of unattended *origo*-shift will also affect Montero & Romero's factive predicates such as *saber* ('to know') or *recordar* ('to remember') which may put the overall results of the study further into question.

Normative or cognitive views on commitment? It should be noted that Montero & Romero (2023) do not clarify what they mean by (speaker) com-

mitment *per se*, leaving open whether they understand commitment as a normative term or resort to the cognitive interpretation that is predominant in the mood literature. As we have seen in Chapter 3, this ambiguity is already problematic for theoretical modulations since a cognitive notion of commitment differs fundamentally from a commitment in the normative sense. It is only indirectly visible what idea of commitment the authors of the study pursue as they build their theory of mood on Schlenker (2005) who, despite using the term *commitment* sparsely, does not entertain a normative but rather a cognitive account of mood where commitment is basically understood as belief (see §4.1 in Chapter 3). We have shown that cognitive accounts of mood will face a plethora of issues that normative accounts would likely not face (see §5.1 in Chapter 3). And as we have seen above, the term *speaker* is equally misleading in that it allows for *origo*-shift, considering the flaws in the experimental design.

Testing for commitments Montero & Romero's test items asked whether the propositional content of the CC ϕ is true, thus asking about the participant's certainty of ϕ. The gap between a question whether ϕ is true and the conclusion a speaker is committed does not appear to be quite conclusive. Considering ϕ to be true does not necessarily mean that one is committed to ϕ, not even if a speaker believes ϕ as beliefs do not necessarily lead to commitments (Geurts, 2024). Another aspect is that certainty is a gradient notion which commitments in the normative sense are not (Katriel & Dascal, 1989; Geurts, 2019a). Under a cognitive account of mood, this appears to be plausible but will have the consequence that commitments will receive a gradient interpretation that might be closer to a cognitive interpretation of the term and brings it closer to involvement (Cornillie & Delbecque, 2008). As things are standing, the follow-up question directed at the participant will not yield anything with regard to the speaker vouching for the truth of ϕ but rather the partcipant assuming ϕ likely or less likely to be true, based on a contextless input sentence.

One promising alternative to test for (speaker) commitments would be to ask participants to monitor items for inconsistencies. Despite their criticism of Quer (1998), Montero & Romero (2023) did not take his examples such as (24) into full consideration, that is, cases in which the speaker openly contradicts the complement. We repeat it again below.

(36)   El   decano no   cree   que los estudiantes se
       the dean   not believe.3P.SG.IND that the students   REFL
       merecen   un premio, #y   yo   tampoco
       deserve.3P.PL.IND a   prize   and 1P.SG.NOM neither
       lo   creo.
       3P.SG.NEUT.ACC believe.1P.SG.IND
       ~'The dean doesn't believe that the students deserve a prize, and I
       don't believe it either.'
       (*Spanish*)

Note in particular that infelicity is constant even under *origo*-shift, making
it a suitable test in cases where little to no context is provided. Thus, either
using test items as Quer (1998)'s example or preventing *origo* shift through
context would potentially provide different results in that it would uncover
inconsistencies of the *origo*'s commitments which, regardless of whether one
pursues a cognitive normative account of mount, would surface regardless.
In sum, as things are standing, Montero & Romero (2023) did not test for
commitment but rather whether the speaker deems the propositional con-
tent ϕ of the CC true or false. Doing so does not necessarily lead to any
commitment.

World knowledge Another aspect that plays a role in correctly inter-
preting the test items in Montero & Romero's study is the effect of world
knowledge or information from context. With the test items in Montero &
Romero's study, the participant is merely presented with a bare item that
does not provide the speaker with any reasons to believe that ϕ is either true
or not, which might lead to arbitrary decisions based solely on the sentence
alone or a gut feeling of the participant. Again, this does not lead to a judg-
ment on whether someone is committed but to whether the participant con-
siders ϕ likely to be true or not.

In clear cases where world-knowledge weighs in, the probability of a pos-
itive answer to (37-b) would be much higher and the issue of who we map the
role of speaker to would play a lesser role because the participant can simply
rely on their world knowledge. For instance, the following case would most
probably yield a high rating in terms of certainty.

(37)   a.   Gerardo no creía   que la Tierra
            Gerardo no believe.3P.SG.IND.IMPF that the Earth
            es   redonda.
            be.3P.SG.IND round
            'Gerardo didn't believe that the Earth is round.'
       b.   ¿Es   redonda la Tierra?
            Be.3P.SG.IND round   the Earth
            'Is the Earth round?'
        (*Spanish*)

Of course, this item appears to be straightforward to any sane participant
that is not a flatearther. What it shows is how much world knowledge weighs
in when confronted with questions asking about certainty. Thus, it makes
sense that Montero & Romero did not include items that would allow par-
ticipants to take advantage of their world knowledge which would skew the
overall judgment of each item. The same effect would apply if we were om-
niscient about Gerardo's case in (31) and be in the know that his neighbor
would be indeed lying.

    Thus, to avoid any world knowledge-effects, one would have to resort
to cases where the participant is left in the dark about the current circum-
stances. But there is still a certain influence that results from the ignorance
about the circumstances that the test items diplay. Namely, if confronted
with an item where the speaker does not know about and seeing that some-
one does not believe it, it should be quite natural to cast doubt and answer
that ϕ is less likely to be true. This is, for instance, the case in their test item
(31), where there is limited evidence the speaker has in order to make a judg-
ment on whether Gerardo's neighbor is lying or not. This effect can again
be mitigated if one accounts for the *origo* shift and map it to the speaker as
in (38) which would by default mean that the speaker is committed to Ger-
ardo's neighbour lying. (38) would always yield inconsistencies and would
not have the issue of dealing with participant's guesswork.

(38)   Gerardo no creía   que su vecino
       Gerardo not believe.3P.SG.IND.IMPF that his neighbor
       estaba   mintiendo, #y es   que no
       be.3P.SG.IND.IMPF lie.GER   and be.3P.SG.IND.IMPF that not
       estaba   mintiendo.
       be.3P.SG.IND.IMPF lie.GER

'Gerardo didn't believe that his neighbor was lying, and he was not lying.'
(*Spanish*)

In addition, Quer's (1998) sentence is agnostic to effects that world knowledge or even context can have on the assessment of truth. By uttering the sentence in (39), the speaker – also being the *origo* – commits to ϕ, even if ϕ is factually wrong, resulting in a false belief.

(39)   Gerardo no creía   que la Tierra es
        Gerardo not believe.IND.3P.SG.PST that the Earth be.3P.SG.IND
        plana, #y   es   que no es   plana.
        flat   and be.3P.SG.IND that not be.3P.SG.IND flat
        ~'Gerardo didn't believe that the Earth is flat, and it is not flat.'
        (*Spanish*)

Of course, to utter (39), one should be willing to commit to the Earth being flat. But doing so for the sake of the argument would show that the commitments are inconsistent regardless which then has nothing to do with beliefs but rather that one vouches for the truth of ϕ and takes full responsibility if the proposition turns out to be false. Taking responsibility for the falsehood of ϕ can range from almost inexistent – a joke made among friends – to severe – a public statement (39) at a physics conference. In any case, (39) would not only prevent the *origo*-shift but, regardless of world knowledge or probabilities whether something is true or not, one would be forced to decide whether commitments are consistent or not.

To summarize, Montero & Romero (2023) have delivered an interesting explorative study on mood alternation. However, their conclusions are not as straightforward as they seem due to problematic design choices in the study design which gives room for too much interpretation of the test items for the participants. Furthermore, the concept of commitment is left undefined and – even though indirectly – leaning towards a cognitive interpretation. Again, we want to emphasize that we do not advocate for embedded indicative CCs to always be speaker-oriented in the sense that it is mapped to a person uttering a sentence containing the presupposition in its CC, as sometimes, the *origo* may be shifted. This is the case when it can be explicitly mapped to third parties (Quer, 1998, 2009), as we will show in §3.1.3.

3.1.3   Commitment shift: quotative evidential strategies

A special case where indicative CCs under *no creer* are not necessarily as-
signed to the speaker is that of a quotative evidential strategy, i.e. a quota-
tive evidential that signals that a third party is the source of a statement. I
will follow Aikhenvald (2004) and treat quotative evidentials as *evidential
strategies*, the "evidential extensions of nonevidential categories" (Aikhen-
vald, 2004, 209). The term *evidential strategy* serves here to distinguish be-
tween languages with evidential morphemes and those who do not, where
the latter resorts to free morphemes (e.g. adverbs, adjectives etc.) to ex-
press evidential readings. Unlike languages that display a set of verbal mark-
ers for evidentiality such as Turkish (Göksel & Kerslake, 2005) or Quechua
(Faller, 2002), Romance languages (e.g. Catalan, French, Spanish, etc.) do
not display any such morphological markers whatsoever (Jansegers & Al-
belda Marco, 2019; Dendale, 2020; Sentí, 2020; Marín-Arrese & Carretero,
2020). Thus, in a narrower sense, Romance languages are not considered
evidential languages (Aikhenvald, 2004). However, they do display lexi-
cal strategies to mark evidential readings that come in open lexical classes
(verbs, adverbs, adjectives, or even complementizers, see Cornillie, 2007;
Demonte & Fernández-Soriano, 2014; Jansegers & Albelda Marco, 2019;
Sentí, 2020; Marín-Arrese & Carretero, 2020). An example of such an evi-
dential strategy is *tal com diu/creu* in Catalan, as visualised in (40).

(40)   El degà no creu   que els estudiants es
        the dean not believe.3P.SG.IND that the students   REFL
        mereixen   el   premi, tal com sí   creuen /
        deserve.3P.PL.IND the prize, so how yes believe.3P.PL.IND
        diuen   ells.
        say.3P.PL.IND 3P.PL.NOM
        'The dean doesn't believe that the students deserve a prize, as they
        believe/ say.'
        (*Catalan*)

The quotative evidential strategy in (40) affects the overall interpretation
of the CC in two respects. Firstly, the *origo* of *els estudiants es mereixen un
premi* is now explicitly marked, i.e. the students; in other words, the students
say about themselves that they deserve a prize. It is therefore quite obvious
that it is no longer the speaker uttering (40) who is committed to the students

deserving a prize (42-a), but the students themselves (42-c). Compared to
Quer's original example (37), repeated here as (41), the *origo* is now shifted
to an explicitly marked third party, i.e. the students. Secondly, as a conse-
quence of the above, the quotative evidential distances the speaker uttering
(40) from *els estudiants es mereixen un premi*, giving the speaker a choice to
either believe the prejacent of *tal com diuen/ creuen ells* or its negation, as
the felicity of both (42-a) and (42-b) show.

(41)   El degà no creu   que els estudiants es
       the dean not believe.3P.SG.IND that the students   REFL
       mereixen   un premi
       deserve.3P.PL.IND a   prize
       'The dean doesn't believe that the students deserve a prize,'

   a. #i   jo   tampoc no ho   crec.
       and 1P.SG.NOM neither not 3P.SG.NEUT.ACC believe.1P.SG.IND
       'and I don't believe it either.'
   b. pero jo   crec   que sí.
       but 1P.SG.NOM believe.1P.SG.IND that yes
       'but I believe they do.'
       (*Catalan*)

(42)   El degà no creu   que els estudiants es
       the dean not believe.3P.SG.IND that the students   REFL
       mereixen   un premi, tal com creuen /
       deserve.3P.PL.IND a   prize, so how believe.3P.PL.IND
       diuen   ells
       say.3P.PL.IND 3P.SG.NOM
       'The dean doesn't believe that the students deserve a prize, as they
       believe/ say,'

   a. i   jo   tampoc no ho   crec.
       and 1P.SG.NOM neither not 3P.SG.NEUT.ACC believe.1P.SG.IND
       'and I don't believe it either.'
   b. però jo   crec   que sí.
       but 1P.SG.NOM believe.1P.SG.IND that yes
       'but I believe they do.'
   c. #i   els estudiants tampoc no ho   diuen.
       and the students   neither not 3P.SG.NEUT.ACC say.3P.PL.IND

'and the students don't say it either.'
(*Catalan*)

By mimicking the original pattern from Quer (1998), we see that our assumptions are correct: the speaker no longer undertakes contradictory commitments when (s)he expresses doubts as to whether the students deserve a prize. With it, we have to reassess (40) in terms of presuppositions and shifted *origo* to a third party. That is, (i) the speaker no longer presupposes *els estudiants es mereixen un premi* but something along the lines of *els estudiants diuen que ells mateixos es mereixen un premi* ('the students claim that they themselves deserve a prize') which (ii) expresses that not the speaker but the students are to be treated as a the *origo* of *the students deserve a prize*, whereas the speaker takes a neutral stance towards *p* which allows him or her to commit to ϕ or to $\neg\phi$, as seen in the follow-ups in (40). As Rudin & Pancheva (2020, 328) put it: "A reportative simply presupposes that the animator [= the speaker; my remark, SB] is not describing their own commitment with the prejacent." Hence, we can summarize that while the speaker presupposes the content of the complex CC, the reportative (here: quotative) evidential stratgegy flips the *origo* from the speaker uttering (40) to *els estudiants* such that the overall speaker presupposition is *the students deserve a prize, according to the students*. We employ the FOS$^+$-test to confirm that the speaker presupposes and thus commits to *els estudiants diuen que ells mateixos es mereixen un premi* (43).

(43)   a.   El degà no creu   que els estudiants es
              the dean not believe.3P.SG.IND that the students   REFL
              mereixen   un premi, tal com diuen
              deserve.3P.PL.IND a   prize   so how say.3P.PL.IND
              ells,   #però ells   no ho
              3P.PL.M.NOM but   3P.PL.M.NOM not 3P.SG.NEUT.ACC
              han   dit,   que es   mereixen   un
              have.3P.PL.IND say.PPRT that REFL deserve.3P.PL.IND a
              premi.
              prize
              ~'The dean doesn't believe that the students deserve a prize, as
              they say. But they didn't say that they deserve a prize.'

b. No és   cert   que el degà no cregui
    not be.3P.SG.IND correct that the dean not believe.3P.SG.SBJV
    que els estudiants es   mereixen   un premi, tal com
    that the students   REFL deserve.3P.PL.IND a   prize   so how
    diuen   ells.   #I   és   que
    say.3P.PL.IND 3P.PL.M.NOM   and be.3P.SG.IND that
    ells   no ho   han   dit,
    3P.PL.M.NOM not 3P.SG.NEUT.ACC have.3P.PL.IND say.PPRT
    que es   mereixen   un premi.
    that REFL deserve.3P.PL.IND a   prize
    ~'It's not true that the dean doesn't believe that the students
    deserve a prize, as they say. And they didn't say that they de-
    serve a prize.'

c. Si el degà no creu   que els estudiants es
    if the dean not believe.3P.SG.IND that the students   REFL
    mereixen   un premi, tal com diuen
    deserve.3P.PL.IND a   prize   so how say.3P.PL.IND
    ells...   #i   és   que ells   no
    3P.PL.M.NOM   and be.3P.SG.IND that 3P.PL.M.NOM not
    ho   han   dit,   que es
    3P.SG.NEUT.ACC have.3P.PL.IND say.PPRT that REFL
    mereixen   un premi.
    deserve.3P.PL.IND a   prize
    ~'If the dean doesn't believe that the students deserve a prize,
    as they say... But they didn't say that they deserve a prize.'

d. El degà no creu   que els estudiants es
    the dean not believe.3P.SG.IND that the students   REFL
    mereixen   un premi, tal com diuen
    deserve.3P.PL.IND a   prize   so how say.3P.PL.IND
    ells?   #O és   que no ho
    3P.PL.M.NOM   or be.3P.SG.IND that not 3P.SG.NEUT.ACC
    han   dit,   que es   mereixen   un
    have.3P.PL.IND say.PPRT that REFL deserve.3P.PL.IND a
    premi?
    prize

~'Doesn't the dean believe that the students deserve a prize, as they say? Or didn't they say it, that they deserve a prize.'
(*Catalan*)

We also test for the speaker's commitments to *els estudiants es mereixen un premi* ('the students deserve a prize') in (44), which results in felicitous follow-ups as the commitment is mapped to *els estudiants* ('the students'), which are identified as the *origo*, not the speaker uttering (40).

(44) a. El degà no creu   que els estudiants es
          the dean not believe.3P.SG.IND that the students   REFL
          mereixen   un premi, tal com diuen   ells.
          deserve.3P.PL.IND a   prize   so how say.3P.PL.IND 3P.PL.NOM
          I   és   que no es   mereixen   un premi.
          and be.3P.SG.IND that not REFL deserve.3P.PL.IND a   prize
          'The dean doesn't believe that the students deserve a prize, as they say. But they don't deserve a prize.'

     b. No és   cert   que el degà no cregui
          not be.3P.SG.IND correct that the dean not believe.3P.SG.SBJV
          que els estudiants es   mereixen   un premi, tal com
          that the students   REFL deserve.3P.PL.IND a   prize   so how
          diuen   ells.   I   és   que ells   no
          say.3P.PL.IND 3P.PL.NOM and be.3P.SG.IND that 3P.PL.NOM not
          es   mereixen   un premi.
          REFL deserve.3P.PL.IND a   prize
          'It's not true that the dean doesn't believe that the students deserve a prize, as they say. And they don't deserve a prize.'

     c. Si el degà no creu   que els estudiants es
          if the dean not believe.3P.SG.IND that the students   REFL
          mereixen   un premi, tal com diuen   ells...
          deserve.3P.PL.IND a   prize   so how say.3P.PL.IND 3P.PL.NOM
          Però ells   no es   mereixen   un premi.
          but 3P.PL.NOM not REFL deserve.3P.PL.IND a   prize
          'If the dean doesn't believe that the students deserve a prize, as they say... But they don't deserve a prize.'

d. El degà no creu   que els estudiants es
the dean not believe that the students   REFL
mereixen   un premi, tal com diuen   ells?
deserve.3P.PL.IND a   prize   so how say.3P.PL.IND 3P.PL.NOM
O és   que ells   no es   mereixen
or be.3P.SG.IND that 3P.PL.NOM not REFL deserve.3P.PL.IND
un premi?
a   prize
'Doesn't the dean believe that the students deserve a prize, as
they say? Or don't they deserve a prize?'
(*Catalan*)

Bearing in mind that we are dealing with a presupposition and not a CI (cf.
(27) and (28)), we can therefore state that the author uttering (40) (prag-
matically) presupposes and thus commits the same to ⟦els estudiants diuen
que es mereixen un premi⟧ (cf. infelicity of (43-a)–(43-d)) but not to ⟦els
estudiants es mereixen un premi⟧ (cf. felicity of (44-a)–(44-d)) since a com-
mitment to ⟦els estudiants no es mereixen un premi⟧ does not show any
inconsistencies, in contrast to a commitment to ⟦els estudians no diuen que
ells mereixen un premi⟧ which is inconsistent with the presupposed con-
tent. This aligns well with previous observations for quotative evidentials in
Spanish (Faller, 2002; Murray, 2010; Demonte & Fernández-Soriano, 2014)
where, unlike the prejacent, the source of information cannot be affected by
negation as otherwise, the discourse turns out pragmatically deviant.

3.1.4   Presupposition and focus in negated 'say'

In what follows, we focus specifically on cases involving *decir* (Spanish 'say')
under negation. Our aim is to argue that mood alternation in contexts with
no decir ('not say') gives rise to different foci, which act as presupposition
triggers (i.a., Jackendoff, 1972; Geurts & van der Sandt, 2004) and lead to
varying speaker commitments.

A close connection between focus and presupposition is often implicitly
assumed in the literature, as Geurts & van der Sandt (2004) remark, along-
side the idea that focus partitions a sentence into an expressed (focused) part
and a backgrounded part. This is well illustrated by the example in (45).

(45)   [Fred]$_F$ robbed the bank.
        (Geurts & van der Sandt, 2004)

In this example, [...]$_F$ marks the constituent in focus.[20] In (45), the focus is on 'Fred', whereas '...robbed the bank' is the backgrounded and thus presupposed content. Thus, (45) presupposes 'someone robbed the bank'. It is argued that the data such as (45) conform to what is known as the Background-Presupposition Rule (BPR), which Geurts & van der Sandt (2004) establish as follows:

(46)   *The Background-Presupposition Rule* (BPR)
        Whenever focusing gives rise to a background $\lambda x.\phi(x)$, there is a presupposition to the effect that $\lambda x.\phi(x)$ holds of some individual.

The requirement that the background holds for some individual can be understood as a commitment to that background. Accordingly, based on (46), a speaker uttering (45) is committed to the proposition that 'someone robbed the bank'. In what follows, we will apply the BPR to identify the presupposed content triggered by focus.

   We now turn to the Spanish examples under discussion. In each case, we follow Bosque's detailed observations, which carefully identify the focus-sensitive elements in both indicative and subjunctive environments. Our point of departure is his example of mood alternation, shown in (47) (from §4.1, Chapter 2).

(47)   Juan no dijo   ayer   que el alcalde
        Juan not say.3P.SG.IND.PST yesterday that the mayor
        fuera /   era   responsable.
        be.3P.SG.SBJV.PST be.3P.SG.IND.IMPF responsible
        'Juan didn't say yesterday that the mayor was responsible.'
        (*Spanish*)

Let us begin with the subjunctive cases. A crucial part in Bosque's observation is that, in contexts where the subjunctive appears, only the CC can bear

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[20]We will remain agnostic here on the discussion on whether focus is realized through intonational prominence.

focus. Shifting the focus to a constituent outside the CC results in infelicity, as illustrated by the contrast between (48) and (49)/(50).[21]

(48)   Juan no dijo   ayer   [que el alcalde
        Juan not say.3P.SG.IND.PST yesterday that the mayor
        fuera   responsable]$_F$.
        be.3P.SG.SBJV.PST responsible
        'Juan didn't say yesterday that the mayor was responsible.'
        (*Spanish*)

(49)   #Juan no dijo   [ayer]$_F$ que el alcalde
        Juan not say.3P.SG.IND.PST yesterday that the mayor
        fuera   responsable.
        be.3P.SG.SBJV.PST responsible
        'Juan didn't say yesterday that the mayor was responsible.'

(50)   #[Juan]$_F$ no dijo   ayer   que el alcalde
         Juan   not say.3P.SG.IND.PST yesterday that the mayor
        fuera   responsable.
        be.3P.SG.SBJV.PST responsible
        'Juan didn't say yesterday that the mayor is responsible.'

(48) allows for the implication along the lines of 'Juan said something (else)', partially capturing the idea that the content of what Juan said differs from $\phi = [\![$the mayor is responsible$]\!]$. Upon closer examination, (48) gives rise to an interpretation that the speaker seeks to correct Juan's original statement and allows for an interpretation of corrective focus, as the following observation in (51) suggests.

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[21] Villalta (2008) suggests that this restriction may stem from the subjunctive mood morpheme functioning as a focus-sensitive operator that evaluates contextual alternatives for the matrix predicate—an account consistent with the focus sensitivity observed in the CC in (48).

(51)   Juan no dijo   ayer   [que el   alcalde
       Juan not say.3P.SG.IND.PST yesterday that the mayor
       fuera   responsable]$_F$, sino que lo
       be.3P.SG.SBJV.PST responsable   but that 3P.SG.NEUT.ACC
       era   su asistente.
       be.3P.SG.IND.IMPF his assistant
       'Juan didn't say yesterday that the mayor is responsible but that it
       was his assistant.'
       (*Spanish*)

In cases of corrective focus, as is the case in (51), we adopt the view that it presupposes a set of alternatives (Krifka, 2006; see also Rooth, 1985, 1992), following the characterization provided in Bianchi (2013, 13):

> In Krifka's (2006) approach, the focus is associated with a contextually relevant set of alternatives (ALT). Corrective focus can then be characterized as carrying the presupposition that one member of the set of alternatives is incompatible with the focus itself [...].

Thus, (48) and (51) presuppose a contextually relevant set of alternatives, introduced by focus on the subjunctive complement clause. Following Bianchi (2013, 13), corrective focus carries the presupposition that one member of this set —namely Juan's commitment to $\phi = \llbracket$the mayor is responsible$\rrbracket$ – is incompatible with the CC in focus. In this case, the speaker presupposes that Juan is committed to some proposition within this alternative set, but that the content he actually asserted is not ϕ, but rather something else, e.g. $\psi = \llbracket$the mayor's assistant was responsible$\rrbracket$, as suggested in (51). In other words, the interpretation of focus in (51) is one of correction: 'Juan said ψ, but not ϕ' as speaker identified ψ as the correct alternative. This also correctly predicts the occurrence of the subjunctive, as it signals a lack of commitment: the proposition ϕ does not appear in the indicative and thus signals that Juan is not committed to ϕ.

In addition, note that the speaker is not committed to the proposition from the alternative set to which Juan is committed either, since (s)he can still cast doubt on the proposition that Juan actually asserted.

(52)   Juan no dijo   que el   alcalde fuera
       Juan not say.3P.SG.IND.PST that the mayor be.3P.SG.SBJV.PST
       responsable, sino que lo   era   su
       responsible but that 3P.SG.NEUT.ACC be.3P.SG.IND.IMPF his
       asistente. Pero dijera   lo   que
       assistant but say.3P.SG.SBJV.PST 3P.SG.NEUT.ACC that
       dijera,   no me lo   creo.
       say.3P.SG.SBJV.PST not REFL 3P.SG.NEUT.ACC believe.1P.SG.IND
       'Juan didn't say the mayor was responsible — he said it was his as-
       sistant. But whatever he said, I don't believe it.'

In (52), the speaker corrects Juan's original statement by clarifying what Juan
actually said. Whether this correction is made for accuracy or out of polite-
ness, it does not entail that the speaker believes or agrees with the proposi-
tion Juan actually asserted.

    Let us now turn to the indicative cases. According to Bosque (1990, 37),
example (47) with an indicative CC is sensitive to multiple foci, making it
potentially ambiguous. He argues that focus can fall (i) on the entire sen-
tence, (ii) the matrix subject *Juan*, or (iii) the temporal adverb *ayer* ('yester-
day'). We will begin by examining the latter; the example under discussion
is shown in (53).

(53)   Juan no dijo   [ayer]$_F$ que el   alcalde
       Juan not say.3P.SG.IND.PST yesterday that the mayor
       era   responsable.
       be.3P.SG.IND.IMPF responsible
       'Juan didn't say yesterday that the mayor was responsible.'
       (*Spanish*)

With focus on *ayer*, we will assume that the presupposition and thus back-
grounded content of (53) is something along the lines of 'Juan said ϕ before
yesterday'. The interpretation of (53), then, is straightforward: the speaker
is committed to Juan said (and thus committed to) to the propositional con-
tent $\phi = $ ⟦the mayor is responsible⟧, as the indicative suggests as it signals
commitment which we can map to Juan. But what is relevant here is the
time he committed to ϕ, which is not yesterday. As a result, the speaker may
felicitously utter the following sentence to stress that Juan said ϕ at a specific
time in the past such as 'last Tuesday' in (54).

(54) Juan no dijo   [ayer]$_F$ que el alcalde
      Juan not say.3P.SG.IND.PST yesterday that the mayor
      era   responsable, sino el   martes   pasado.
      be.3P.SG.IND.IMPF responsible but the Tuesday pass.PPRT
      'Juan didn't say yesterday that the mayor was responsible. He said
      it last Tuesday.'
      (*Spanish*, *apud* Bosque, 1990)

Here, the speaker's commitments are consistent. That is, while the presup-
position in (54) causes a speaker commitment to ⟦Juan didn't say yester-
day that the mayor was responsible⟧, the assertion of the follow-up causes
a commitment to ⟦Last Tuesday, Juan said that the mayor was responsible⟧.
These two propositions that the speaker is commited to stand in no conflict
whatsoever. Thus, the felicity of (54) is expected.
    Our next case deals with focus put on the matrix subject *Juan* in (55).[22]

(55) [Juan]$_F$ no dijo   ayer   que el alcalde
       Juan   not say.3P.SG.IND.PST yesterday that the mayor
      era   responsable.
      be.3P.SG.IND.IMPF responsible
      'Juan didn't say yesterday that the mayor is responsible.'
      (*Spanish*)

Here, the focus on *Juan* triggers the presupposition of the backgrounded
content 'someone said that the mayor is responsible'. Bosque's paraphrase
in (56) further underlines the necessity of someone who we can map the
asserted content to, as the subjunctive is ruled out and the pseudo-cleft re-
quires an indicative.

(56) No fue   [Juan]$_F$ quien dijo   [que el
      not be.3P.SG.IND.PST Juan   who say.3P.SG.IND.PST that the
      alcalde *fuera /   era   responsable].
      mayor   be.3P.SG.SBJV.PST be.3P.SG.IND.IMPF responsible
      'It wasn't Juan who said that the mayor was responsible.'
       (*Spanish*, Bosque, 1990)

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[22]Bosque (1990) mentions in passing that this focus is less prominent and not available
to every speaker.

We can elicit that contrast even further when we introduce another individual who claimed that the mayor was responsible. See (57).

(57)   No fue   [Juan]$_F$ quien dijo   [que el
       not be.3P.SG.IND.PST Juan   who say.3P.SG.IND.PST that the
       alcalde *fuera /   era   responsable], sino
       mayor   be.3P.SG.SBJV.PST be.3P.SG.IND.IMPF responsible   but
       [Marta]$_F$.
        Marta
       'It wasn't Juan but Marta who said that the mayor was responsible.'
       (*Spanish*)

Here, the infelicity of the subjunctive is insofar plausible as the overall sentence with focus on *Juan* suggests that someone else than him brought forward the proposition ϕ and thus must have committed to it. If we use the subjunctive, we signal that no one is committed to ⟦the mayor is responsible⟧, which would result in an unacceptable sentence as it would suggest the lack of a committer.

Bosque (1990) remarks that the subjunctive in (56) may still be permissible, but then, the overall interpretation becomes more complex in that it would introduce two constrastive foci on *Juan* and the CC, which, according to the BPR would result in the presupposition of 'someone said something'. On the one hand, it introduces a contrast with respect to *who* said something and, on the other hand, it introduces a contrast with respect to *what* was said. Once both are identified, both the content and the person that uttered that content is corrected. Thus, such a sentence would then express something along the lines of 'it wasn't Juan who said ϕ, but Marta who said ψ'. This contrast is further illustrated with Bosque (1990)'s two examples where (58-a) would correspond to Bosque's (48), and (58-b) to (57) with a subjunctive in the asserted part of the pseudo-cleft.

(58)   a.   [Juan]$_F$ llamó   a Pedro, y   no [Luis]$_F$.
            Juan   call.3P.SG.IND.PST to Pedro and not Luis
            'Juan called Pedro, and not Luis.'
       b.   [Juan]$_F$ llamó   a [Pedro]$_F$, y   no [Luis]$_F$ a
             Juan   call.3P.SG.IND.PST to Pedro   and not Luis   to
            [María]$_F$.
             María

'Juan called Pedro, rather than Luis calling María.'
(*Spanish*, Bosque, 1990)

(58-a) expresses that Juan was the caller, not Luis; only the caller was misiden-
tified and the speaker corrects this accordingly. This is similar to (48) which
captures the contrastive reading of 'what Juan said was not $\phi = [\![$the mayor
was responsible$]\!]$ but $\psi = [\![$his assistant was responsible$]\!]$'. (58-b) is more
complex as it displays multiple contrastive foci, namely that María was not
the callee but Pedro, and it was not Luis that called, but Juan. This would
then correspond to the subjunctive pseudo-cleft in a way that, on top of the
contrast of what has been said (ψ) and not been said (ϕ), as explained for
(48), we also contrast who said ψ, namely Marta, and not Juan.

Our last case concerns focus on the whole sentence, as in (59).

(59)   [Juan no dijo   que el   alcalde era
         Juan not say.3P.SG.IND.PST that the mayor be.3P.SG.IND.IMPF
        responsable]$_F$.
        responsible
        'Juan didn't say that the mayor was responsible.'
        (*Spanish*, Bosque, 1990)

Here, we follow the notion of polarity focus (Gussenhoven, 1984; Bolinger,
1989; Geurts & van der Sandt, 2004), which describes placing focus on the
entire proposition expressed. The chief purpose of the focus is to either af-
firm or deny the proposition in question, as illustrated by Gussenhoven's
(1984) examples in (60) and (61) below; focus markings (in small caps) from
Gussenhoven (1984).[23]

(60)   A: Why didn't you take the garbage out?
        B: I TOOK the garbage out.

(61)   The house is NOT on fire.

According to Geurts & van der Sandt (2004) and the BPR, the presupposi-
tion induced is that of two alternatives where one of it is true. Thus, (60)
and (61) would presuppose $\neg\phi \vee \phi$, which is a trivial presupposition, as it

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[23] As Geurts & van der Sandt (2004) further emphasize, polarity focus is relatively free
and may occur in different positions, as (60) and (61) suggest.

is always true. The only thing the asserted sentences (60)/(61) do, then, is to select the respective disjunct. The same reasoning can be applied to (59) where, unlike the narrow focus we have seen with *ayer* in (54) or the matrix subject *Juan* in (55), Bosque (1990) stresses that the focus is laid on the entire sentence in (59), which gives further reasons to assume polarity focus. If this is true, we would say that (59) triggers the trivial presupposition ¬[*Juan said that the mayor is responsible*] ∨ *Juan said that the mayor is responsible*, and the assertion of (59) picks the first disjunct which remains consistent with the speaker's commitment to ¬[*Juan said that the mayor is responsible*].

One should also honor the line of argumentation in Bosque (1990) who argues less in terms of presupposition and concentrates more on the scope of negation. To drive this point home, Bosque (1990) suggests that (62) is a paraphrase for (59).

(62)   No es   cierto que Juan dijera   que el
        not be.3P.SG.IND true   that Juan say.3P.SG.SBJV.PST that the
        alcalde era   responsable.
        mayor be.3P.SG.IND.IMPF responsible
        'It is not true that Juan said that the mayor is responsible.'
        (*Spanish*)

As he explains, the close paraphrase (62) of (59) illustrates a case of metalinguistic negation, which commits the speaker to the proposition ⟦it is not the case that Juan said that the mayor is responsible⟧. Consequently, after uttering (62), the speaker cannot simultaneously commit to ⟦Juan said that the mayor is not responsible⟧ without incurring a contradiction in commitments.

(63)   No es   cierto que Juan dijera   que el
        not be.3P.SG.IND true   that Juan say.3P.SG.SBJV.PST that the
        alcalde era   responsable.
        mayor be.3P.SG.IND.IMPF responsible
        'It is not true that Juan said that the mayor is responsible.'

    a. #pero lo   dijo.
        but   3P.SG.NEUT.ACC say.3P.SG.IND.PST
        'but he said it.'

b. #pero lo   dijo   el   martes
    but   3P.SG.NEUT.ACC say.3P.SG.IND.PST the Tuesday
    pasado.
    pass.PPRT
    'but he said it last Tuesday.'
(*Spanish*)

To conclude, building on Bosque's observation, we have shown that mood alternation under negated verbs of communication – taking the case of Spanish *no decir* – correlates with distinct focus placements. This variation gives rise to different presuppositional profiles and speaker commitments. Specifically, subjunctive CCs are associated with corrective focus. In contrast, indicative CCs permit a wider range of focus positions, both within and outside the CC, each yielding presuppositions compatible with commitment that are signalled by the indicative in the CC. These patterns support the predictions of the BPR and underscore the interaction between focus, presupposition, and mood.

3.2   Response stance verbs

3.2.1   Presupposition and givenness

Kastner (2015) was first to point out in detail the difference between factives and response stance verbs (RSVs, first introduced in Cattell, 1978), claiming that "both classes [RSVs and factives; my remark, SB] of verbs presuppose the existence of their complement [in the *CG*] but only the former presuppose the truth of the clause embedded in their complement" (2015, 159). He demonstrates this by drawing on the following contrast.

(64)   a.   Bill denied [that he stole the cookies]. (#No one claimed that he had stolen them.)
        b.   #Bill remembers [that the moon is made of kale]. (# No one had told him that before.)
        (Kastner, 2015, 159)

We may further apply diagnostics from the FOS⁺-test to confirm that (65-a) indeed does not presuppose its complement.

(65)   a.   Bill denied [that he stole the cookies], and we later found out
              he hadn't — it was John who stole them.
        b.   Bill didn't deny stealing the cookies. But he didn't steal them.
        c.   If Bill denied that he stole the cookies, we should look into it.
              Still, he didn't do it.

In (65-a), the complement is contradicted by the speaker without result-
ing in an infelicitous sentence, thus further underlining that RSVs indeed
do not presuppose the truth of the CC. In (65-b) and (65-c), the content
does not project. The relevant contrast between (64-a) and (64-b) here is
that RSVs do not presuppose the content of their CC but only that some-
one claimed that the propositional content of the CC is true, or false (cf.
'deny'). Unlike RSVs, factives also presuppose the truth of the CC (but see
de Cuba & Ürögdi, 2010 for arguments against this general view). While
both RSVs and factives are triggers for semantic presuppositions, the con-
tent they semantically presuppose differs. Kastner further explains that a
"presuppositional verb like *deny* can only refer to an already-existing no-
tion. A factive (presuppositional) verb like 'remember' can only refer to an
already-existing notion which is also true." In fact, what Kastner calls a refer-
ence to an already-existing notion that is true, we might simply call a speaker
commitment that arises through the semantic presupposition of a predicate.
Thus, with an RSV such as deny, which triggers the semantic presupposition
that 'someone claimed that ϕ'—as observed in example (64-a)—the speaker
can commit to a proposition that contradicts the CC. This contrasts with
the case of remember in example (64-b), which presupposes the content of
its CC. Similar cross-linguistic observations for RSVs in German or Bangla
(Banerjee, 2023) further suggest this point of view:

(66)   Peter verneint,   dass er   die Kekse   gestohlen
        Peter deny.3P.SG.IND that 3P.SG.NOM the cookies steal.PPRT
        hat.
        have.3P.SG.IND
        'Peter denied that he stole the cookies.'
        a.   ?Niemand hat   ihm   davor gesagt, dass
              nobody   have.3P.SG.IND 3P.SG.M.DAT before say.PPRT that
              er   sie   gestohlen hat.
              3P.SG.M.NOM 3P.PL.F.ACC steal.PPRT have.3P.SG.IND

'Nobody accused him of stealing them.'

b. Und er   hat   sie   nicht
    and 3P.SG.M.NOM have.3P.SG.IND 3P.PL.F.ACC not
    gestohlen.
    steal.PPRT
    'And he didn't steal them.'

   (*German*)

(67) robi ɔʃʃikar koretʃʰe/   mene nietʃʰe   [dʒe onu d̪oʃi]
      Rabi deny   do.3P.SG.PRF accept take.3P.SG.PRF that Anu guilty
      'Rabi has denied/accepted that Anu is guilty.'

   a. #kin̪t̪u keu   age   robi-ke bɔle ni   [dʒe
       but   no.one before Rabi-ACC tell.3P SG.PRF.PST.NEG that
       onu d̪oʃi]
       Anu guilty
       'But, no one told Rabi before that Anu is guilty.'

   b. ar emni̪t̪eo/ kin̪t̪u onu æ̃kebarei d̪oʃi nɔj
       and anyway   but   Anu at.all   guilty NEG
       'And anyway(with *deny*),/ but(with *accept*) Anu is not guilty at.all.'

   (*Bangla*, Banerjee, 2023, 1)

However, as we will see shortly, the notion that the existence of ϕ is presupposed to be in the *CG* is not as straightforward as the preceding data might suggest. For example, what Kastner describes as a presupposition of the existence in the *CG* can be interpreted in ways such that do not necessarily entail that the content was claimed by a third party, as his example in (64-b) might imply. As we will show, we find cases where ϕ need not have been explicitly claimed but merely introduced into the discourse, whether verbally or non-verbally. Consider the following example from Catalan in (68).

(68) En Joan va   admetre   que havia
      the Joan go.3P.SG.IND admit.INF that have.3P.SG.IND.IMPF
      trencat   el gerro
      break.PPRT the vase
      'Joan admits that he had broken the vase,'

a. tot i   que ningú   l'havia
    all and that nobody 3P.SG.M.DAT-have.3P.SG.IND.IMPF
    acusat.
    accuse.PPRT
    'even though no one had accused him.'
b. sense   que ningú li   ho
    without that nobody 3P.SG.M.DAT 3P.SG.NEUT.ACC
    demanés.
    ask.3P.SG.SBJV.IMPF
    'without anyone asking him.'
(*Catalan*)

(68) demonstrates that follow-up sentences such as (68-a) and (68-b) can still be felicitous even when no one has explicitly asserted or inquired about ϕ. In this particular case, this raises a challenge for Kastner's (64-a), which predicts infelicity in such contexts, when it is followed up with the assertion that nobody has claimed ϕ before. To account for this, the presupposition of ϕ's existence in the *CG* may need to be reconsidered. Rather than requiring that ϕ has been brought up[24] with an explicit speech act, the data in (68) and (68-b) suggest that ϕ may enter the *CG* through nonverbal or otherwise indirect means. We might therefore consider (69) equally plausible.

(69) *Context: You're in the kitchen with Bill when you both notice that the vase is broken. Before anyone can say a word, Bill immediately denies having broken it. Later, you recount the incident and what Bill said to a friend.*
      a. Bill denied [that he broke the vase], even though no one had accused him of doing it.

(69) illustrates that the existence of ϕ has been brought up implicitly by witnessing a broken vase, without any verbal accusations made. While it still does not undermine the hypothesis that the existence of ϕ is presupposed in

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[24]Note that not all response stance verbs behave uniformly. For instance, in (68-a), the verb receives a 'confess'-like interpretation, which does not appear to require a preceding utterance. Nevertheless, the content of the complement clause still seems to be given—though not necessarily through a prior speech act, but through an event.

verbs such as 'deny' in English (64-b) or 'admit' in Catalan (68), it challenges the suggestive presupposition '*x* claimed ϕ' as in (64-a). As shown by (68) and (69), ϕ may become part of the *CG* through non-verbal cues or implicit contextual information. Thus, the presupposition '*x* claimed ϕ' should not be generalized across all contexts.

As de Cuba & Ürögdi (2010) observe, the presupposition of ϕ in complements of factive verbs can sometimes be confounded with contextual givenness, a pragmatic concept "that has to do with the structure of the discourse" (de Cuba & Ürögdi, 2010, 41), drawing on an example from Hegarty (1992) that displays a contrast with respect to their pragmatics.

(70)   I was talking to our agents in Russia yesterday

    a.   and they noticed that Max went to Moscow last week.

    b.   and they noticed it that Max went to Moscow last week.

    (Hegarty, 1992)

Here, de Cuba & Ürögdi explain that a speaker uttering (70-a) can be said out of the blue and without assuming that the listener knows about Max's travel plans from last week. (70-b), on the other hand, cannot be said out of the blue as (70-b) "is deviant if the complement clause is not given to the listener" (de Cuba & Ürögdi, 2010, 45). While both examples have the same factive verb ('notice'), only (70-a) appears to introduce something new while presupposing the propositional content of the CC, whereas (70-b) requires the content of the CC to be given. Thus, de Cuba & Ürögdi's idea of givenness can also be transferred to RSVs insofar that in cases with subjunctive CCs of RSVs such as *admetre*, it is only possible to utter them if the content of the CC has been brought up in the discourse. While this condition is often tacitly satisfied, making it explicit that the content of the CC is not contextually given results in significantly sharper judgments. This contrast is illustrated by comparing (71) with (72).

(71)   *Context: You have a discussion with your friend Joan on global warming and how to take individual measures to reduce your carbon footprint. The topic of eating meat has **not** been brought up throughout the conversation and you say:*

    a. #Admeto   que la carn contamini.

        admit.1P.SG.IND that the meat contaminate.3P.SG.SBJV

        'I admit that eating meat is polluting the environment.'

     b.   Admeto   que la carn contamina.
          admit.1P.SG.IND that the meat contaminate.3P.SG.IND
          'I admit that eating meat is polluting the environment.'
  (*Catalan*)

(72)   *Context: You have a discussion with your friend Joan on global warming and how to take individual measures to reduce your carbon footprint. The topic of eating meat has been brought up throughout the conversation and you say:*
     a.   Admeto   que la carn contamini.
          admit.1P.SG.IND that the meat contaminate.3P.SG.SBJV
          'I admit that eating meat is polluting the environment.'
     b.   Admeto   que la carn contamina.
          admit.1P.SG.IND that the meat contaminate.3P.SG.IND
          'I admit that eating meat is polluting the environment.'
  (*Catalan*)

In (71), we have an explicit context that excludes the givenness of the proposition ϕ = ⟦eating meat pollutes the environment⟧, whereas in (72), the context explicitly says that ϕ is currently on the table and given to the addressee, i.e. the person that replies with (72-a), for instance. This would suggest that the reading of (71-a) corresponds to de Cuba & Ürögdi's (70-b), an extraposition[25], whereas (71-b) corresponds to their (70-a). We can also make an additional crosslinguistic observation here, namely that while in English, 'it' marks the givenness-reading of a factive, as (70-b) suggests, the givenness-reading in Romance languages such as Catalan are expressed with the subjunctive.

    While givenness and presupposition are different, the assumptions by de Cuba & Ürögdi (2010) and Kastner (2015) are not too far away from each other in that both posit the existence of a propositional referent ϕ in the *CG*. However, they diverge in a crucial respect. Namely, de Cuba & Ürögdi say that givenness is pragmatic and require the propositional content ϕ to emerge through discourse, whereas Kastner argues that the presupposition of the existence of ϕ in the *CG* is encoded in the verb such that it semanti-

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[25]Like most non-canonical structures, extrapositions are subject to certain discourse constraints.

cally presupposes that the propositional referent ϕ is existent in the CG. This yields a subtle but significant distinction: if a factive were to signal givenness, in the sense of de Cuba & Ürögdi (2010), rather than presupposition, its assertion would depend on a preparatory condition, namely, that ϕ must have been previously introduced into the discourse. By contrast, if a factive verb were to presuppose the proposition's presence in the CG, in Kastner (2015) sense, no such preparatory condition is required for a felicitous assertion as it would be introduced through the presupposition. This appears to hold for (70-a), but not for (70-b). While we cannot settle this general debate here, we can see which of the two aspects fit better for our assumptions for *admetre*. First, notice that if we assume that admetre presupposes the existence of ϕ in the Common Ground (CG), that is, that ϕ has already been brought up, then out of-the-blue uses should not pose a problem. In such cases, a felicitous utterance of (72-a) would not require ϕ to have been previously introduced in the discourse. Instead, ϕ may be presented as new information. This parallels de Cuba & Ürögdi's example (70-a), which presupposes and, as de Cuba & Ürögdi (2010, 45) observe, introduces the proposition that Max went to Moscow as contextually new. However, as the infelicity of (72) shows, this does not seem to hold. If the verb itself presupposed the existence of ϕ in the CG, i.e. ϕ was brought up in the discourse, then why does (72) turn out infelicitous if we explicitly rule out that ϕ was not brought up if the alleged presupposed content may be introduced as contextually new? This is a crucial aspect that sways the favor towards givenness. It appears that the condition for the use-condition of a felicitous utterance of (72) depends on a pragmatic condition, which deems de Cuba & Ürögdi's assumption of givenness a more plausible candidate here. The bottom line for us would then be that it would be more sensible for now to assume that for *admetre* taking a subjunctive CC, there is no such semantic presupposition of the existence of ϕ in the CG. Rather, the content of the CC is brougt up in the discourse and is necessary for (72) to be uttered in the first place. Whether givenness corresponds to a commitment or not, we will have to leave open for later.

3.2.2   What is presupposed?

Kastner (2015)'s observations regarding RSVs suggest that they do not semantically presuppose the truth of their complement clauses (CCs). This

aligns with the view expressed by Rivero (1971, 1979), who argues that the presupposition associated with an RSV such as *admitir* is not semantic either. Rivero emphasizes that such verbs "do not imply that the complement must necessarily be assumed to be true, unlike factive verbs such as saber ['to know']" (Rivero, 1971, 325). If this is true, we would expect for RSVs that the speaker still has consistent commitments if (s)he undertakes a commitment to a proposition that contradicts the content of the CC. For factives, on the other hand, we would expect conflicting commitments as the propositional content of the CC is semantically presupposed. Let us first look at the latter, taking the Catalan example (73) with *saber* ('to know').

(73)   En Joan sap   que la degana té   raó.
        the Joan know.3P.SG.IND that the dean   have.3P.SG.IND reason
        #Però no en té   gens, de raó.
         but   not of have.3P.SG.IND none of reason
        'Joan knows that the dean is right. But she isn't right at all.'
        (*Catalan*)

(73) confirms that *saber* triggers a (semantic) presupposition that commits the speaker to the content of the CC. This is evident in the fact that a contradictory follow-up leads to inconsistent speaker commitments, rendering the sentence infelicitous, just as expected. This, in turn, supports the conclusion that *saber* triggers a semantic presupposition and also enjoins a speaker commitment to the propositional content of the CC in (73).

    To drive the point home regarding RSVs, let us first consider (74).

(74)   En Joan admet   que la degana té   raó,
        the Joan admit.3P.SG.IND that the dean   have.3P.SG.IND reason
        ??però no en té   gens, de raó.
         but   not of have.3P.SG none of reason
        'Joan admits that the dean is right. But she isn't right at all.'
        (*Catalan*)

The follow-up that contradicts the propositional content of the clausal complement (CC) is almost unacceptable, which seems to challenge the assumption that RSVs in Romance do not semantically presuppose the content of their CCs. But does this already prove that *admetre* semantically presupposes the content of the CC? Not necessarily, especially if we consider the

subjunctive counterpart in (75). In that case, a follow-up that contradicts the CC seems more acceptable.[26] Note that we will have to assume that the content of the CC is given, as this is required for the felicity of (75), as previously shown in (71).

(75)   En Joan admet   que la degana tingui   raó,
        the Joan admit.3P.SG.IND that the dean   have.3P.SG.SBJV reason
        però no en té   gens, de raó.
        but   not of have.3P.SG.IND none of reason
        'Joan admits that the dean is right, but she isn't right at all.'
        (*Catalan*)

If *admetre* would truly qualify as a trigger of a semantic presupposition, we would expect stronger judgments regarding the contradiction of the propositional content of the CC. Put differently, if *admetre* semantically presupposed its CC, contradictions would be equally bad for both indicative and subjunctive CCs. Given that it is easier to contradict the CC in (75), it becomes less plausible to hold that *admitir* is a trigger of a semantic presupposition. Thus, just because (74) with an indicative CC is odd, it does not prove that *admetre* semantically presupposes its CC.

Furthermore, as we have also seen previously in the case of (71), we explicitly constructed a context where the content of the CC was not given, thereby forcing an out-of-the-blue use of *admetre* with a subjunctive CC. The resulting infelicity in such uses constitutes further evidence against the assumption that it semantically presupposes the content of its CC across mood choice. That is, rather than presupposing its CC, we concluded that *admetre* with a subjunctive CC requires that the content of the CC be given in the previous discourse. If the content of its subjunctive CC was semantically presupposed, we would expect felicity in out-of-the-blue contexts. As argued in Geurts (2010, 171), "new information can, and often will, be conveyed by way of presupposition". If the content of the CC in (71) were indeed presupposed, this would predict that (71) could be asserted out of the blue without any further issues, even when the content of the CC has not yet been introduced. However, this prediction is not borne out.

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[26]Even here, some speakers find the judgments less than fully acceptable. This could be related to the fact that the content of the CC needs to be given, as we will argue further.

Thus, despite the conflicting data in (74), we still stand by the claim that *admetre* does not qualify as a trigger of a semantic presupposition and adopt Kastner's view such that *admetre* behaves like an RSV. We submit, then, that Romance RSVs follow a pattern similar to those in other languages, such as English (Cattell, 1978; Kastner, 2015), Bangla (Banerjee, 2023), or Hebrew (Kastner, 2015), where comparable results have been observed. However, this still leaves open the question of the high unacceptability in (74) which we will tackle in the following.

So far, we have only challenged the assumption that someone having claimed or asked about ϕ being presupposed and that *admetre* does not qualify as a trigger of a semantic presupposition. It is still left open, however, whether the CC could be subject to a speaker presupposition. Indeed, Rivero (1971, 1979) argues precisely this point in the case of indicative CCs of Spanish *admitir* ('to admit'). To illustrate, we will consider Rivero's Spanish examples such as (76-b).

(76)   a.   (El prisonero) admite   que vino   el
            the prisoner   admit.3P.SG.IND that come.3P.SG.IND.PST the
            inspector.
            inspector
            'The prisoner admits that the inspector came.'
       b.   (El prisonero) admite   que viniera   el
            the prisoner   admit.3P.SG.IND that come.3P.SG.SBJV.PST the
            inspector.
            inspector
            'The prisoner admits that the inspector came.'
       (*Spanish*, Rivero, 1971; Bosque, 1990)

As we have already alluded to in §4.2 in Chapter 2, Rivero (1971, 1979) suggests that Spanish *admitir* does not trigger a semantic presupposition. This view coheres with an account in which presuppositions reflect speaker commitment that, in turn, is marked through indicative. Namely, if *admitir* semantically presupposed its CC, we would expect invariable selection of the indicative, contrary to fact.

Rivero thus stresses however, that the presupposition – if it emerges – is "on the part of the speaker" (Rivero, 1971, 324), thus making clear that the content of the CC is rather a speaker presupposition than a semantic presupposition. In Rivero's example (42), repeated as (77) here, this is pre-

cisely the case as the pragmatic presupposition arises from the interrogator being in a state of knowledge that the inspector came. This, then, licenses the interrogator to use the indicative in (77-b). The context in (77) is true to Rivero's (1971) original description of the example.

(77)   *Context: Suppose a prisoner is being interrogated and the interroga-*
         tor knows that an inspector visited that prisoner but the prisoner him-
         self is unaware of this. The prisoner had been interrogated for hours in
         search of that specific admission, and after several hours the prisoner
         confesses that the inspector visited him.

    a.   #Admite   que viniera   el inspector.
        admit.3P.SG.IND that come.3P.SG.SBJV.PST the inspector
        '(S)he admits that the inspector came.'

    b.   Admite   que vino   el inspector.
        admit.3P.SG.IND that come.3P.SG.IND.PST the inspector
        '(S)he admits that the inspector came.'

    (*Spanish, apud* Rivero, 1971)

As Rivero (1971, 325) explains that the context in (77) is appropriate to motivate the speaker presupposition, the subjunctive would be a suitable choice "if the person interrogating the prisoner had not known that the inspector had come" and "the prisoner would have made his confession" such that *admitir* with a subjunctive CC would merely imply that the interrogator is reporting what happened but "does not have a way to evaluate the importance of the confession". Bosque (1990), referring to Rivero (1971) explains that the indicative marks the speaker's commitment to the propositional content of the CC, whereas the subjunctive represents either what he describes as a neutral stance or doubt. In any of these two cases, it appears safe to say, based on Bosque's judgment, that the speaker is not committed to the content of the CC. As he additionally stresses, the choice on the interpretation, i.e. the choice on which mood the speaker chooses, depends on the respective context. Thus, in Rivero's example, we have a context in which the speaker is clearly committed to the content of the CC such that (s)he presupposes that the inspector came. Note that the use of the subjunctive in (77) is infelicitous. Rivero (1971, 324) explains that, as the context reports that the prisoner had been interrogated for a certain period "in search of that specific admission", i.e. that the inspector came, the use of the subjunctive would be "totally inappropriate" and only the indicative would emerge as

the only choice. While Rivero's and Bosque's judgments seem to be based on instrospective judgments, they did not employ tests to corroborate their judgments. Hence, we will do it here, starting with the FOS⁺-test in (78). Assuming that the indicative CC is presupposed by the speaker, just as in cases in Catalan with *no creure*, we may see, based on the outcome of the FOS⁺-test whether the complement is presupposed (on the part of the speaker) or, put differently, whether the speaker uttering (77-b) is committed to the content of the CC. The outcome confirms that the speaker is indeed committed to the CC.

(78) a. El prisonero ha   admitido   que
          the prisoner   have.3P.SG.IND admit.PPRT that
          vino   el inspector. #Pero no
          come.3P.SG.IND.PST the inspector   but   not
          vino   el inspector.
          come.3P.SG.IND.PST the inspector
          ~'The prisoner has admitted that the inspector came. But the
          inspector didn't come.'

     b. No es   cierto que el   prisonero haya
         not be.3P.SG.IND true   that the prisoner   have.3P.SG.SBJV
         admitido   que vino   el   inspector. #Y
         admit.PPRT that come.3P.SG.SBJV.PST the inspector   and
         es   que no vino   el   inspector.
         be.3P.SG.IND that not come.3P.SG.IND.PST the inspector
         ~'It is not true that the prisoner has admitted that the inspector
         came. And the inspector didn't come.'

     c. Si el   prisonero ha   admitido   que
         if the inspector have.3P.SG.IND admit.PPRT that
         vino   el inspector... #pero no vino   el
         come.3P.SG.IND the inspector   but   not come.3P.SG.IND the
         inspector.
         inspector
         ~'If the prisoner has admitted that the inspector came...but the
         inspector didn't come.'

    d.   El prisonero ha   admitido   que vino el
        the prisoner   have.3P.SG.IND admit.PPRT that the   inspector
        inspector?   #O es   que no vino?
        come.3P.SG.IND.PST or be.3P.SG.IND that not come.3P.SG.IND
        ~'Has the prisoner admitted that the inspector came? Or did
        he not come?'
  (*Spanish*)

While the FOS⁺-test gives us very good reasons to assume that the content of the CC is indeed presupposed, we can round up our assumptions with the HWAM-test that specifically targets speaker presuppositions. The result is the same such that we may safely assume that the CC in (77) is presupposed by the speaker, as originally assumed by Rivero (1971).

(79)   a.   El prisonero admite   que vino   el
            the prisoner admit.3P.SG.IND that come.3P.SG.IND.PST the
            inspector.
            inspector
            'The prisoner admits that the inspector came.'
      b.   ¡Eh! ¡Un momento! Yo   no sabía   que
            INJ a   moment   1P.SG.NOM not know.1P.SG.IND.IMPF that
            viniera   el inspector.
            come.3P.SG.SBJV the inspector
            'Hey, hold on a second! I didn't know that the inspector came.'
  (*Spanish*)

If the same test is applied to (35-b) with a subjunctive CC, the test fails which proves that the content of the subjunctive CC is not presupposed by the speaker.

(80)   a.   El prisonero admite   que viniera   el
            the prisoner admit.3P.SG.IND that come.3P.SG.IND.PST the
            inspector.
            inspector
            'The prisoner admits that the inspector came.'

b. #¡Eh! ¡Un momento! Yo   no sabía   que
    INJ   a   moment 1P.SG.NOM not know.1P.SG.IND.IMPF that
    viniera   el inspector.
    come.3P.SG.SBJV the inspector
    'Hey, hold on a second! I didn't know that the inspector came.'
(*Spanish*)

In sum, we have shown that the content of indicative CCs embedded by
RSVs can be presupposed. However, and most importantly, this presuppo-
sition appears to be a speaker presupposition, since our observations indi-
cate that 'admit' does not uniformly semantically presuppose the content of
its CC. Following de Cuba & Ürögdi (2010), it seems that the content of the
CC is better analyzed as given rather than presupposed. To underscore this
point, we demonstrated that in contexts where the CC content is explicitly
treated as not given, an RSV with a subjunctive CC cannot be felicitously
uttered—suggesting that prior discourse mention of the content is required.
If the content of an RSV, regardless of its mood in the CC, were semantically
presupposed, introducing it as new information would not pose a problem—
contrary to what we have observed.

3.2.3 Negative response stances

So far, we have only looked at positive RSVs, among which we focused on
RSVs such as *admetre* or *acceptar*. We also have RSVs that express a negative
stance towards a proposed propositional content. This is the case of *negar*
('to deny/ to refuse' in Catalan and Spanish) which we will call a negative
RSV. Note that *negar* shows similar properties of positive RSVs.

(81) *Context: A politician is on trial. There is no clear evidence regarding
      whether his party is corrupt.*

a. El polític   segueix   negant   [que hi
    the politician follow.3P.SG.IND deny.GER that there
    hagi   corrupció al   seu   partit].
    be3P.SG.SBJV corrupcion to.the his/her party.
    'The politician keeps denying that there is corruption in his/her
    party.'

    (i) #Però ningú   no ho   havia
       but nobody not 3P.SG.NEUT.ACC have3P.SG.IND.IMPF
       dit   abans.
       say.PPRT before
       'But nobody has claimed that before.'

    (ii) I   té   raó,   no hi   ha   cap
       and have.3P.SG.IND reason not there be.3P.SG.IND any
       cas de corrupció.
       case of corruption
       'And (he) is right, there is no case of corruption.'

    (iii) Però, de fet, sí que hi   ha   corrupció.
       but   of fact yes that there be.3P.SG.IND corruption
       'But in fact, there is corruption.'

(*Catalan*)

(82)   *Context: A politician is on trial. There is very conclusive evidence*
       that exposes his party of clear cases of corruption.

    a.   El polític   segueix   negant   [que hi
       the politician follow.3P.SG.IND deny.GER   that there
       ha   corrupció al   seu   partit].
       be3P.SG.IND corrupcion to.the his/her party.
       'The politician keeps denying that there is corruption in his/her
       party.'

       (i) #Però ningú   no ho   havia
           but nobody not 3P.SG.NEUT.ACC have3P.SG.IND.IMPF
           dit   abans.
           say.PPRT before
           'But nobody has claimed that before.'

       (ii) #I   té   raó,   no hi   ha   cap
           and have.3P.SG.IND reason not there be.3P.SG.IND any
           cas de corrupció.
           case of corruption
           'And (he) is right, there is no case of corruption.'

       (iii) Però, de fet, sí que hi   ha   corrupció.
           but   of fact yes that there be.3P.SG.IND corruption
           'And in fact, there is corruption.'

(*Catalan*)

On first sight, *negar* appears to (semantically) presuppose 'someone claimed ϕ', as shown in the infelicitous follow-ups (81-a-i)/ (82-a-i). However, there are still scenarios where it is not necessary that one must have claimed ϕ, as it can also be just a question rather than an assertion of ϕ. Consider the dialogue in (83), where Joan's mother asks him about the broken vase (83-a), and Joan answers with (83-b).

(83)   a.   Ui, el gerro s'ha   trencat.   Qui
             INJ the vase REFL-have.3P.SG.IND break.PPRT who
             l'ha   trencat?   O és   que
             3P.SG.M.ACC-have.3P.SG.IND break.PPRT or be.3P.SG.IND that
             ha   caigut   amb un cop de vent?
             have.3P.SG.IND fall.PPRT with a hit of wind
             'Oh, the vase is broken. Who broke it? Or did it fall over from a gust of wind?'
   b.   Jo   no l'he   trencat   pas.
             1P.SG.NOM not 3P.SG.M.ACC-have.1P.SG.IND break.PPRT NEG
             'I haven't broken it.'

Consider now that later, Joan's mother talks to Joan's father and says (84).

(84)   En Joan va   negar que havia   trencat
       the Joan go.3P.SG.IND deny that have.3P.SG.IND.IMPF break.PPRT
       el gerro, però jo   sé   que ha
       the vase but 1P.SG.NOM know.1P.SG.IND that have.3P.SG.IND
       sigut ell.
       be.pprt 3P.SG.M.NOM
       'Joan denied that he broke the vase, but I know that it was him.'

Also, consider again the discussion on givenness *vis-a-vis* presupposition in § 3.2.2 and the observation that an RSV with a subjunctive cannot be said out of the blue; the contexts in both (81) and (82) suggests that the content of the CC has been brought up. Just like positive RSVs, a negative RSV with a CC in the subjunctive cannot be used in out-of-the-blue contexts (85), only in those contexts where ϕ has been brought to the table (86).

(85)   *Context: You have a discussion with your friend Joan on global warming and how to take individual measures to reduce your carbon foot-*

*print. The topic of eating meat has **not** been brought up throughout the conversation and you say:*

a. #Nego   que la carn contamini.
    deny.1P.SG.IND that the meat contaminate.3P.SG.SBJV
    'I deny that eating meat is polluting the environment.'
(*Catalan*)

(86) *Context: You have a discussion with your friend Joan on global warming and how to take individual measures to reduce your carbon footprint. The topic of eating meat has been been brought up and you say:*

a. Nego   que la carn contamini.
    deny.1P.SG.IND that the meat contaminate.3P.SG.SBJV
    'I deny that eating meat is polluting the environment.'
(*Catalan*)

This would again suggest that the content of the CC must be given rather than be presupposed, regardless of whether this presupposition is that of 'someone claimed that ϕ' or just the existence of ϕ in the discourse, where the latter follows from the former. That is, if the CC were given, it would also entail that ϕ had been introduced in one way or another. In any case, if anything were presupposed, it could be introduced as new information, as previously suggested for *admetre*. The infelicity of (90-a) in contexts where ϕ is not given would then, again, suggest that we cannot confidently assume that *negar* semantically presupposes anything. Future work will need to determine whether this issue can be resolved more definitively.

We can also observe that *negar* in first-person does not license the indicative. This is plausible insofar as performing a refusal of ϕ while simultaneously committing to ϕ – as signaled by the indicative – would result in an inconsistency.

(87) #Nego que la degana té   raó.
      deny that the dean   have.3P.SG.IND reason
      'I deny that the dean is right.'
      (*Catalan*)

Thus, in first-person contexts, uses of *negar* are restricted to the subjunctive mood, whereas in third-person contexts, the indicative remains possible.

This is because reporting a refusal by a third party may still allow the speaker to presuppose the content of the complement clause, and thereby commit to it, as illustrated in the felicitous utterance of (82-a).

So far, we have seen that *negar* shows the same behaviour as positive RSVs. What is interesting now are the cases when a negative RSV becomes negated. Under negation, both indicative and subjunctive become grammatical options under first person again. This is because *no negar* ('to deny') receives a meaning similar to *aceptar* ('to accept'), thus flipping its function from a negative to a positive RSV. In the remainder of this section, we will briefly look at first-person cases to discuss the interpretations of *no negar* in more detail. To do so, we want to look at the following example in (88).

(88)   *In a conversation with fellow experts in the field, Marta, one of Juan's professional colleagues, remarks that he did an excellent job on the exhibition and praises him as a great artist. You respond:*

    a.   Bueno, no niego   [que sea   un gran
        well   not deny.3P.SG.IND that be.3P.SG.SBJV a   great
        artista], pero con esta obra se   va   a ganar
        artist   but   with this work REFL go.3P.SG.IND to win.INF
        muchos enemigos.
        many   enemies
        'Well, I'm not denying that he is a great artist, but with this work, he's going to make a lot of enemies.'

    b.   Bueno, no niego   [que es   un gran
        well   not deny.3P.SG.IND that be.3P.SG.IND a   great
        artista], pero con esta obra se   va   a ganar
        artist   but   with this work REFL go.3P.SG.IND to win.INF
        muchos enemigos.
        many   enemies
        'Well, I'm not denying that he is a great artist, but with this work, he's going to make a lot of enemies.'

    (*Spanish*)

The subjunctive in the CC in (88-a) does not commit the speaker to $\phi =$ ⟦Juan is a great artist⟧, the content of the CC, nor does the speaker fully accept ϕ to be true but leaves it open whether Juan is a great artist or not; we will talk more about this aspect in Chapter 5. With (88-b), on the other hand,

the speaker does not deny the fact that Juan is a great artist and also commits the speaker to the propositional content of the CC in (88-b), ϕ = ⟦Juan is a great artist⟧.

As a final remark, we turn to the issue of how the commitment in example (88-b) is established, as it is equally plausible to assume that it arises through either an assertion or a presupposition. At first glance, one might be inclined to interpret indicative CCs in this context as assertive, particularly given their performative use in first-person constructions. After all, *no negar* appears, in principle, to convey a denegation. However, as noted by Cohen & Krifka (2014, 84), a refraining from denying is not tantamount to asserting. Thus, rather than being caused by an assertion, the commitment expressed in such cases may instead be better understood as resulting from a presupposition. Since our focus in this chapter is on whether CCs are presupposed, we anticipate an answer to this question by applying the HWAM test, which diagnoses speaker presuppositions. Imagine again the context of (88), where you're speaking with fellow experts and you say:

(89)   Bueno, no niego   [que es   un gran artista],
       well   not deny.1P.SG.IND that is.3P.SG.IND a   great artist
       pero...
       but
       'Well, I'm not denying that he's a great artist, but...'
       (*Spanish*)

But before you can continue, one of Marta's colleagues, clearly skeptical of Juan's talents, interjects with

(90)   ¡Eh! ¡Un momento! Yo   no sabía   que
       INJ a   moment   1P.SG.NOM not know.1P.SG.IND.IMPF that
       pensaras   que es   un gran artista.
       think.3P.SG.IND.PST that be.3P.SG.IND a   great artist
       'Hey, hold on a second! I didn't know that you think that he is a great artist.'
       (*Spanish*)

The felicity of the HWAM-test in (90) confirms the presuppositional status of the embedded clause: uttering (89) conveys the content of the CC as a

speaker presupposition which is being resisted by the interlocutor. We will revisit these cases later on in Chapter 5.

4   Summary

This chapter has examined the relationship between presuppositions and speaker commitments, arguing that in Catalan and Spanish, the indicative mood in CCs serves as a marker of such commitments. We proposed that when the content of a CC is presupposed, it is also speaker-committed, and this consistently correlates with the presence of the indicative.

We explored this hypothesis across two domains, non-factives under negation, and RSVs. In negated non-factives, indicative complements (e.g., with *no creer*) can project to the speaker, yielding a speaker commitment. In contrast, negated verbs such as *no decir* ('not say') act as filters in the sense of Karttunen (1973): presuppositions map to the *origo*, not the speaker uttering the sentence which yet still constitutes a commitment through the presupposition that is filtered by the *origo*.

As for RSVs, verbs like *admetre* do not semantically presuppose their complements. However, in suitable contexts, indicative CCs reflect speaker presuppositions, which resist contradiction. In other contexts, they may optain reportative readings only, allowing deniability and thus revealing no speaker commitment. Despite the indicative marking commitment, the content is not presupposed and as such, does not commit the speaker to the propositional content of the CC.

Across these cases, we observed that indicative mood aligns with presuppositions of the literal content of the CC, whether it belongs to the speaker or to the *origo*. Of course, we caution that indicative does not necessarily and always guarantee a presupposition.

Chapter 5

Mood and their role in commitment spaces

Contents

1   Introduction

So far, we have given reasons for a treatment of indicative mood as a signal for commitment in its normative sense. Now, we want to provide a first step towards a formalization of a commitment-based theory of mood. As commitments have certain effects within a conversation such that they obligate speakers to remain consistent with respect to the commitments they have (i.a. Hamblin, 1970; Lyons, 1995; Krifka, 2022, 2023), we want to resort to an idea that captures this general principle well. Now, there are various options on the market that can be picked from to formally model conversation (e.g. Stalnaker, 1978, 2002; Gunlogson, 2001; Farkas & Bruce, 2010; Farkas, 2003; Geurts, 2019a,b, 2024). In this chapter, we will resort to the Commitment Space-model (henceforth CS-model), originally developed in Cohen & Krifka (2011) and further refined in the subsequent literature (Cohen & Krifka, 2014; Krifka, 2015, 2021, 2022, 2024). The goal is to propose a first idea of an analysis of mood alternation in a dynamic framework of CSs that displays how mood choice affects different outcomes in discourse as seen by how they shape CSs.

The outline of the chapter is as follows. In §2, we lay out the foundations for the analysis of a normative-oriented account for mood, the CS-model, presenting the relevant preliminaries for updates, namely updates with assertions §3.2 and denegations §3.3. In §3.4 we briefly discuss a quick solution for implementing accommodation in a CS model, as it will play a relevant role in a majority of cases. In §4, we continue with mood alternation and its effects on the CS, drawing on a subset of cases discussed in the previous chapters. §4.1 will look at non-factives and their case examples with predicates such as 'say' and 'believe'. §4.2 will look at case examples of both positive and negative RSVs, focusing on the case of 'admit' and 'deny', respectively. §5 concludes.

2   Commitment Spaces, Commitment States

A fundamental concept of the Commitment Space framework, originally developed in Cohen & Krifka (2011, 2014), is a Commitment State, henceforth CSt, which assumes the role of the Common Ground (CG; Stalnaker, 1972, 1973, 1974, 1975, 1998, 2002) in alternative formal models of conversation (Cohen & Krifka, 2014, 48). Just like CGs are non-empty and

unordered sets, so are *CSt*s for which we use the shorthand *c* (Cohen & Krifka, 2011, 11). A *CSt c* is sometimes defined as a "representation of commitments" (Krifka, 2015, 365), sometimes as "a set of propositions" (Krifka, 2015, 328). Rather than a true inconsistency, these differing definitions should be seen as complementary. In essence, *CSt*s are like *CG*s with a "richer structure" (cf. García-Carpintero, 2015) which may not only contain propositions but also commitments as their elements (cf. Cohen & Krifka, 2011, 2014; Krifka, 2017, 2022, 2015). Cohen & Krifka (2014, 48) also explicitly say that "[w]hile common grounds typically are modeled by sets of propositions that are publicly accepted by all participants, commitment states are richer". That is, next to including propositions that have been accepted in a conversation, *CSt*s "also keep track of the participants that asserted a proposition, and hence are responsible for its truth" (Cohen & Krifka, 2014, 48). We thus conclude, then, that a *CSt* represents the set of commitments and propositions that are publicly shared by the discourse participants (Krifka, 2015, 329). As we have briefly pointed out in Chapter 3, we will use the formalization of commitments used in Krifka (2015, 2021, 2022, 2023), which will be of the form '$S \vdash \phi$' to express 'S vouches for the truth of ϕ'. A *CSt* is not an arbitrary set of commitments and propositions (Cohen & Krifka, 2014, 48); its elements must be consistent, i.e. non-contradictory, and adhere to certain integrity constraints (Krifka, 2022, 95, see §3.1 for a list of these constraints). For instance, a *CSt* should not contain contradictory propositions (ϕ and $\neg\phi$) or contradictory commitments ($S_1 \vdash \phi$ and $S_1 \vdash \neg\phi$) as this would entail being responsible for such conflicts and incur (social) penalties "in case the other participant presses on this issue" (Cohen & Krifka, 2014, 48). Similar to updating *CG*s through (basic) speech acts, a *CSt c* can develop into another *CSt c′*, and if *c* can develop to *c′*, then $c \subseteq c'$ (Cohen & Krifka, 2014, 50). It is important to note that starting from a given *CSt c*, different output *CSt*s *c′* can be obtained. In other words, asserting and thus committing to either ϕ, $\neg\phi$, or ψ, leads to different output *CSt*s *c′* that will contain the respective propositions after a successful update; we will elaborate more on that in §3. These anticipated developments, with various possible output *CSt*s departing from an input *CSt*, lends itself to modeling a projected information state in discourse termed a Commitment Space (*CS*, Cohen & Krifka, 2011, 2014; Krifka, 2015).

In principle, the notion of a *CS* captures two things: information that is shared and "mutual understanding of ways how this shared information

can develop in conversation" (Krifka, 2022, 95). This integration of continuations of a *CSt* is a hallmark of a *CS* and a straightforward extension of the Stalnakerian *CG* (Krifka, 2022, 95). Formally speaking, a *CS* is a set of *CSt*s rooted in a non-empty *CSt* c together with all other admissible continuations of *CSt*s c' into which it can develop through basic speech acts "with respect to the relation of continuation" (Krifka, 2017, 367), as defined by Cohen & Krifka (2014) in (1).
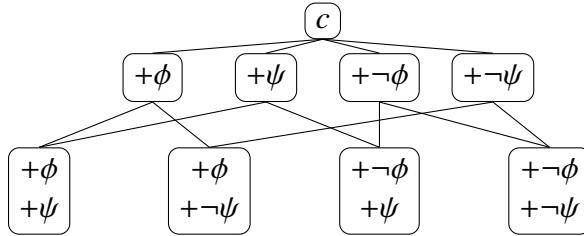
(1)   *C* is a commitment space iff:
       C is a set of commitment states;
       $\exists c \in C \, \forall c' \in C [c \neq \emptyset \wedge c \subseteq c']$

A rooted *CSt* or just root is the non-empty intersection of a *CS* C, i.e. $\bigcap C$, conventionally written as $\sqrt{C}$ (Cohen & Krifka, 2011, 14). It is the most general and least informative *CSt* in a given *CS* (Krifka, 2022, 96) and represents the set that all *CSt*s have in common (Cohen & Krifka, 2014, 50). The quality of a c being a root is defined in a relational sense, that is, it is the c of which every other c' in *CS* is not a proper subset of, meaning that there is at least one c in C that has less elements than any other c'. Krifka's (2022) definition of a root formally captures this idea in (2).

(2) $\sqrt{C} = \{c \in C \,|\, \neg \exists c'[c' \in C \wedge c' \subset c]\}$

Assuming a single-rooted *CS*, the root contains the information that is accepted by the interlocutors, usually represented as a singleton set, $\sqrt{C} = \{c\}$, which contains the *CSt* that holds the information that has been accumulated thus far in a conversation (Cohen & Krifka, 2011, 14). *CS*s may be projected as game trees or Hasse diagrams (Cohen & Krifka, 2011, 2014; Krifka, 2015, 2017, 2022). Having covered the crucial notions of *CSt*, *CS*, and roots, we can draw up an example of such a typical *CS* as a Hasse diagram in (3).

(3)   Graphical rendition of a prototypical Commitment space C

Of course, such a depiction of a *CS* is far from displaying the complexity of conversational development. (3) merely describes a reduced case of possible continuations of $\sqrt{C}$ with the propositions ϕ and ψ and their respective negations, but it serves the purpose of capturing the basic ideas such as the legal developments from the respective nodes. Legal developments are those developments in discourse that are possible and do not create any inconsistencies when updating a *CSt* c to another *CSt* c'. For instance, any development from $\sqrt{C}$ to any of the four connected *CSt*s c' that contains either ϕ, $\neg\phi$, ψ, $\neg\psi$ is a legal development. Assuming an update with ϕ and thus obtaining the *CSt* c', the set $\{c + \phi\}$, c' may not develop to a *CSt* c'' that contains $\neg\phi$ as it would cause inconsistencies and as such does not represent a legal development. As visible in the diagram, such development is not marked by a line and only developments to *CSt*s that contain ψ or $\neg\psi$ are licit conversational moves. In the next sections, we will often use such a less rich graphical depiction and only list those *CSt*s that are part of the development within a *CS*. The non-legal movements can also be predicted by honoring the consistency constraints, as we will see in §3.1. With all these things explained, we can now move on to the modeling of conversational moves with speech acts, which we will do in §3.

3   Updates in Commitment Spaces

3.1   Preliminaries

Since *CS*s consist of sets of *CSt*s, it follows that every update within a *CS* is also an update of a *CSt*. Here, we will explain the basics of updates within *CS*s and how they are achieved with different kinds of updates. We will start with the simplest form of an update and adapt the notation from Krifka

(2022) where we do not make further distinctions between informative and performative updates as done in Krifka (2023, 2024). We will only speak of updates here and not make further distinctions. Let us assume now that a speaker wants to update a CS with a proposition ϕ. How is this rendered formally? Krifka (2022) suggests that the update of a CS C with the root $\sqrt{C} = c$ is written as $\cdot\phi(C)$, where '$\cdot$' describes an operator that turns a proposition into an update function. (4), for instance, describes the case where C is applied to the update function $\cdot\phi$.

(4) $\cdot\phi(C)$

    a. $= \{c \in C \mid \phi \in c\}$
    b. $= C + \cdot\phi$
    c. $= \{c + \phi\}$

(4-a)-(4-c) are different ways to display the updates, depending on whether one wants to describe the effect on the overall CS or CSt. (4-a) describes the set of those CSt in a CS of which ϕ is a member. (4-b) describe the overall update of the CS where the CS C is updated and reduced to those CSts in the updated CS that contain ϕ (of which some may contain other propositions than ϕ). (4-c) describes an updated CSt that contains as its members the root of a CS C, as well as ϕ that is added after the (successful) update with ϕ. We will mostly resort to the notations in (4-b) and (4-c) here. Let us now demonstrate the application of the update function in (4) using a simple example. Assume a commitment space C_0 with its root $\sqrt{C_0} = c$. We now want to update C_0 with the proposition ϕ. Using the operator '$\cdot$', we turn the proposition ϕ into an update function. Applying CS C_0 to this update function then will result in an update of C_0 with ϕ. This is written formally as follows:
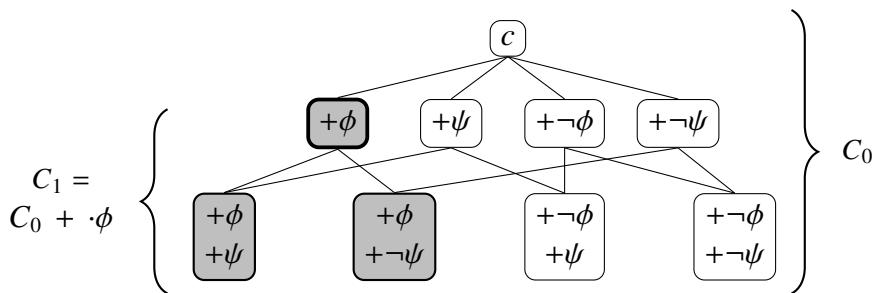
(5)   a.   Update of C_0 with ϕ
               $\cdot\phi(C_0) = C_0 + \cdot\phi$
     b. $C_1 = C_0 + \cdot\phi$

An update of C_0 with ϕ would then create a new CS C_1 with its new root $\sqrt{C_1}$ where $\phi \in \sqrt{C_1}$. With this update, we expunged all CSts within C_1 that do not contain ϕ, plus those that contradict ϕ, such as CSts that contain $\neg\phi$. As (5-a) suggests, each update with a proposition results in an updated CS

C_{n+1}. For example, an update of C_0 with ϕ gives us the CS C_1, an update of C_1, C_2, and so on. Thus, following (4-b), we may write it up as (5-b).

This was the basic step of a CS-update and that is all to it. For the sake of transparency, we may also visualize the update in (5-b) with a diagram (6) (original graph adopted from Krifka, 2022). This creates transparency in two ways. Not only can we 'trace back' who made a commitment at what stage, but also transparently display the 'area' covered by C_0, the CS before the update with ϕ, and C_1, the 'area' the CS covers after an update with ϕ, marked with curly brackets, also courtesy of Krifka (2022).

(6) Update of a CS C_0 with ϕ $(\cdot\phi)$

A few more comments on the diagram in (6) are in order. First, we see greyed-out areas. These are the CSts within the newly established CS C_1 after an update with ϕ. The whited-out areas are those CSts that are expunged. Second, we see a thick border around the CSt that has ϕ as its member. This is the CSt that has been recently updated with ϕ and is the current position that a speaker S made after completing the update with ϕ. Figuratively speaking, it functions as a 'you are here' marker, indicating the point of update development within a CS. Logically, this CSt is also in grey as it is part of the updated CS C_1. From there, a speaker S may now pursue legal developments within the CS C_1 to the CSts in grey, that is, the CSt that contains ϕ and ψ, as well as the one that contains ϕ and $\neg\psi$. This is also marked by the connecting lines. As can be seen, there are no connections from the CSt containing ϕ to, say, the CSt that contains $\neg\phi$ and ψ since transitioning from the former to the latter would result in an inconsistency – this CSt would then contain both ϕ and $\neg\phi$. That is, CSts must be consistent in that they do not contain any contradictory propositions. This reasoning naturally applies to updates as well. One cannot make an update with a proposition that would

result in an inconsistent *CSt*, nor can one make an update with a proposition that would contradict one that is in the *CSt* one departs from.
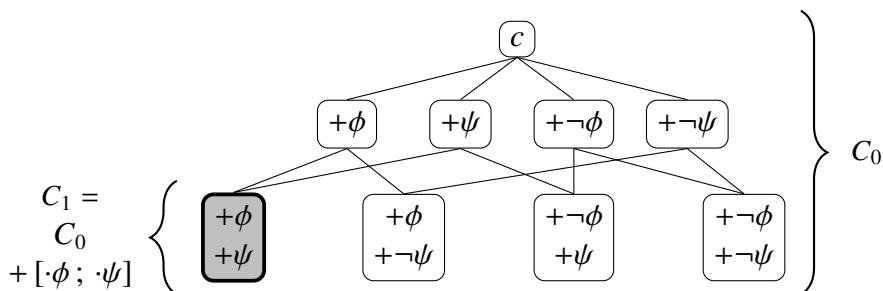
Apart from the simplest case of an update of a *CS* as seen in (6), Krifka (2022) lists other kinds of updates. Of these, only three will be relevant for us, namely dynamic conjunction, disjunction, and denegation. Let us start with dynamic conjunction as in (7).

(7)   Dynamic conjunction
$$[\cdot\phi\,;\,\cdot\psi] = \{c + \phi + \psi\}$$

A dynamic update is order-sensitive, i.e. it first updates a *CS* with ϕ, and then with ψ, which is graphically depicted as in (8).

(8)   Update of a *CS* C_0 to C_1 with a dynamic conjunction ($[\cdot\phi\,;\,\cdot\psi]$)

While this move extends beyond one *CSt* in the *CS* in (8), it still results in a new *CS* C_1 and not C_2, for instance, as a dynamic update is still a single update.
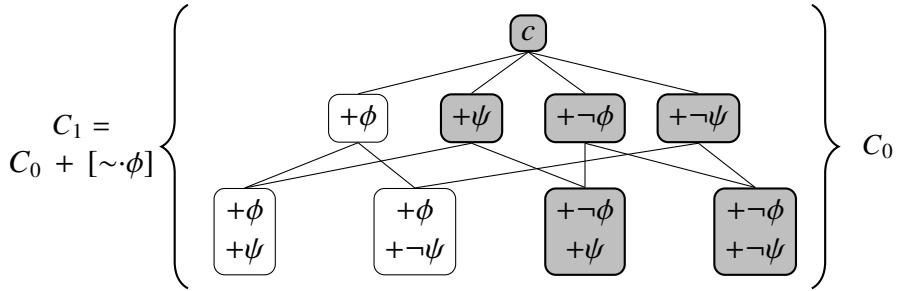
Denegation is a prevention of an update with ϕ such that future developments within *CS* exclude those *CSts* that contain ϕ, also leaving the root of a *CS* intact, as can be seen in where the least informative *CSt* c still remains in the *CSt* after a denegation. We will look at denegation and this particular aspect of leaving the root intact in more detail in §3.3.

(9)   Denegation
$$[\sim\!\cdot\phi] = \{c, c + \psi, c + \neg\phi, c + \neg\psi, c + \neg\phi + \psi, c + \neg\phi + \neg\psi\}$$

An exemplary denegation of ϕ of the form $\sim \cdot \phi$ would then look like (10).

(10)   Prevention of updating a *CS* C_0 with denegation of ϕ: $[\sim \cdot \phi]$

$$C_1 = C_0 + [\sim\!\cdot\phi]$$
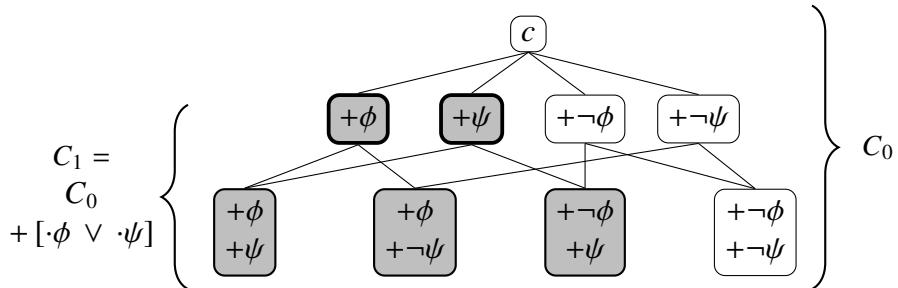
Lastly, we consider disjunction. The update of a CS with a disjunction $[\cdot\phi \lor \cdot\psi]$ results in a continuation set including contexts where either ϕ or ψ (or sometimes both) are established:

(11)   Disjunction
$\cdot\phi \lor \cdot\psi = \{c + \phi, c + \psi, c + \phi + \psi, c + \phi + \neg\psi, c + \psi + \neg\phi\}$

Disjunctions are particularly interesting because they often lead to multiple roots (Krifka, 2022, 96, see also Krifka, 2017; Kamali & Krifka, 2020; Krifka, 2021), i.e. distinct minimal continuations after the update. This means that C_1, the CS after an update with a disjunction, may have two distinct roots, one where ϕ is established and one where ψ is established. If we further assume that both disjuncts are established, the continuations incompatible with them, such as those including $\{c + \phi + \neg\psi\}$ and $\{c + \psi + \neg\phi\}$ should be excluded from further development. (12) illustrates an update with a disjunction.

(12)   Update of a CS C_0 to C_1 with disjunction: $[\cdot\phi \lor \cdot\psi]$

$$C_1 = C_0 + [\cdot\phi \lor \cdot\psi]$$

Such multiple roots, as established with disjunction may arise to represent open issues that are subject to resolution, similar to a QUD (Kamali & Krifka,

2020). Put differently, the update with a disjunction raises the question whether further development of the CS should happen with ϕ or ψ.

As a last point, we want to look at what Krifka (2022, 103) calls consistency constraints in (13) through (20). One may understand consistency constraints as explicit formalizations of some of the implicit aspects in commitment and belief management in our observations of mood (Chapter 3) thus far as well as in our discussion on commitments. For example, in Chapter 3 §2, we mentioned that commitments amount to a kind of consistency checks. We will list Krifka's (2022) consistency constraints below. A short explanation on the notation: In the constraints below, '*' expresses a logical incompatibility, 'x' refers to any discourse participant, 'P' to a set of propositions, 'c' to a CSt, '⊢' to a 'commitment (to a proposition)', '$\Rightarrow$' to logical consequence, and '⊣' to 'cast doubt (on a proposition)'. Krifka's (2022) constraints ensure well-behaved CSts by ruling out combinations of propositions that result in inconsistency, thereby preserving the integrity of the conversational record. As Krifka (2022) stresses, any successful update with ϕ results in $c \subset \{\phi\}$ if and only if the constraints are satisfied. We will now briefly explain each constraint in turn.

(13) $^{*}\phi \in c, \exists P \subseteq [P \Rightarrow \neg\phi] \in c$ ⟶ logical consistency

(14) $^{*}x{\vdash}\phi, x{\vdash}\neg\phi \in c$ ⟶ claim consistency

(15) $^{*}x{\vdash}\phi, \neg\phi \in c$ ⟶ claim/proposition consistency

(16) $^{*}x{\vdash}\phi, x{\dashv}\phi \in c$ ⟶ claim/doubt consistency

(17) $^{*}x{\dashv}\phi, \phi \in c$ ⟶ doubt/proposition consistency

(18) $^{*}B_x\neg\phi, \phi \in c$ ⟶ belief/proposition consistency

(19) $^{*}B_x\neg\phi, x{\vdash}\phi \in c$ ⟶ belief/claim consistency

We begin with the logical consistency constraint (13), which generally states that a CSt must not include propositions that logically contradict one another. (14) and (15) assert that a speaker should not commit to both ϕ and its negation, nor to ϕ if $\neg\phi$ is already part of the CSt. Similarly, a speaker should not express doubt about a proposition if they have previously committed to ϕ, as captured in (16). In addition, expressing doubt about ϕ is incompatible with ϕ being in c (17). The final two constraints, (18) and (19), pertain to the relation between belief and commitment. They prohibit a speaker from simultaneously believing $\neg\phi$ and being committed to ϕ in

the same *CSt*, nor can they believe ¬ϕ if ϕ is in a *CSt c*.[1] Lastly, we have the integrity constraint in (20).

(20)   *~ϕ, $\phi \in c$ integrity constraint

The integrity constraint ensures that a speaker does not block an update with ϕ if ϕ is already a member of an established *CSt*. As Krifka (2022) emphasizes, ~ϕ is not interpreted in the sense that ~ϕ is a member of a *CSt*. ~·ϕ is best understood as a prevention of an update with ϕ, thereby leaving the membership of ϕ within a *CSt* unresolved (Krifka, 2022, 103); we will discuss denegations in more detail later. Consequently, it appears inconsistent for a speaker to leave ϕ open when ϕ is already established in a *CSt*. Having established the necessary preliminaries of the *CS* framework, we may now continue with updates with assertions (§3.2) and denegations (§3.3).

3.2   Updates with assertion

Stalnaker (1978, 1999) characterizes assertions as proposals to update the *CG* with a proposition ϕ, treating this update as their 'essential effect'. Krifka (2022, 2024) stresses that such an update with ϕ cannot be achieved by brute force (see also Lauer, 2013) but by giving the addressee reasons to accept ϕ. Krifka (2022) thus emphasizes the importance of commitments to achieve this goal: by vouching for the truth of ϕ (Tuzet, 2006; Shapiro, 2020; MacFarlane, 2014), the speaker gives the addressee (further) reasons to accept

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[1]This raises a legitimate question: how can the *CS* model account for lying? Since we devoted considerable discussion to the phenomenon of lying earlier, a comment is in order. The belief-related constraints presuppose that beliefs enter the commitment space through commitments—i.e., if a speaker asserts or reports that someone believes ϕ, they are committing to that belief attribution. This fits well with the idea that beliefs themselves are not directly verifiable, but once a speaker vouches for a belief, it becomes subject to consistency constraints. In cases of lying, then, the model does not necessarily capture the speaker's actual belief state, but rather their committed belief state. Lying, on this view, consists in maintaining incompatible private beliefs while publicly committing to the opposite, a tension the model represents through the structure of the *CS* rather than through direct belief attribution. This would give the *CS* model a distinctly legalistic character: it treats belief attributions as formal commitments—akin to testimony under oath or an affidavit in legal contexts—thus prioritizing public accountability over private belief. However, this is a more complex matter and must be addressed in future research.

ϕ to the CG/CSt. As initially described in Austin's (1962) theory, speech acts can be analyzed on multiple levels such as locutionary, illocutionary or perlocutionary acts. The relevant steps involved in updates of CSs here are those of the illocutionary and perlocutionary acts (Krifka, 2022). The illocutionary act serves for the speaker to commit to ϕ, i.e. to vouch for the truth of ϕ (Krifka, 2022, 2024) and to achieve the goal for the addressee to accept ϕ. Thus, the illocutionary act is "just a tool to achieve that goal" (Krifka, 2024, 18). The illocutionary act is followed by the perlocutionary act which describes the effect on the interlocutor, namely to accept ϕ to the CG/CSt. As Austin (1962, 109) emphasizes, it is necessary to distinguish the illocutionary from the perlocutionary act in that "the latter has a meaning of a consequence". This, ideally, would be the acceptance of ϕ after the illocutionary act; both parties now vouch for the truth of ϕ.

In Krifka's framework, the effect of this illocutionary act by a speaker S_1 is the update of a CS with the proposition $S_1 \vdash \phi$ which is why the update operator '$\cdot$' is put before $S_1 \vdash \phi$. We visualize this update formally in (22).
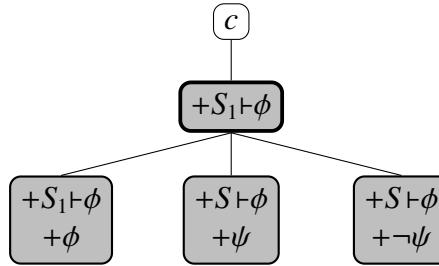
(21)   Illocutionary act:
        $C_1 = C_0 + \cdot S_1 \vdash \phi$

Following the pattern of an update as defined in (6), (21) gives us an update with S_1's commitment to ϕ through the illocutionary act of asserting ϕ. By doing so, S_1 now updated the CS with 'S_1 vouches for the truth of ϕ'. Of course, this does not mean that S_1 updated the CS with ϕ. As Krifka (2024) notes, a crucial aspect of the illocutionary act is that this update is not subject to negotiation and cannot be rejected in the same way as a proposal with ϕ (see Krifka, 2024 for more details). This means that the addressee S_2 has no influence on whether $S_1 \vdash \phi$ is added to the CS or not; S_2 can only ask S_1 to take back their guarantee for the truth of ϕ, for example by saying 'Take this back!' (Krifka, 2024, 30). For the CS-model, this means that the proposition $S_1 \vdash \phi$ gets added to the CS without any fuss and S_2 does not have a say in preventing the update with $S_1 \vdash \phi$ (Krifka, 2022, 2024). Hence, the first update within a CS-model qua assertion is an update with $S_1 \vdash \phi$, yielding a new CS. To model this accordingly, let us assume a CS C_0 with its root $\sqrt{C_0} = \{c\}$. (21) formally captures the idea that with the illocutionary act, we obtain those CSts within C_0 of which $S_1 \vdash \phi$ is a member. This not only includes the least informative CSt – our updated CSt c_1 – in C_1 which has $S_1 \vdash \phi$ as its member, but also excludes those CSts from C_1 that are incompatible with
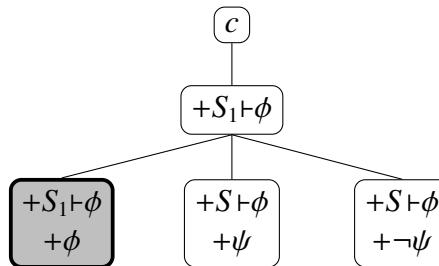
$S_1 \vdash \phi$. In any case, this new CS C_1 now has a new root $\sqrt{C_1}$. Being the least informative state of C_1, $\sqrt{C_1}$ is the updated CSt $c_1 = \{c + S_1 \vdash \phi\}$. We can also render (21) visually as a simplified CS in (22).[2]

(22)   Illocutionary act: $C_1 = C_0 + \cdot S_1 \vdash \phi$

As the illocutionary effect of an assertion is merely S_1 vouching for the truth, the primary perlocutionary act of an assertion is an update with ϕ, i.e. the addition of ϕ and establishment of a new CSt, as shown in (23).

(23)   Primary perlocutionary act: $C_1 + \cdot \phi$

However, (Krifka, 2022, 97) stresses that an addressee (S_2) "has a say in this second move". What does this mean in particular? It means that ϕ does not simply get added but S_2 reacts to the update proposal accordingly and may either accept or reject ϕ. Note that through the illocutionary act in (22), S_1 vouches for ϕ such that S_2 might have reasons to accept ϕ, which amounts to the effect of adding ϕ to the CSt. To account for this formally, Krifka (2022, 97) proposes the illocutionary act of assertion to function as

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[2]'Simplified' refers to a CS that only includes CSts that are part of current and previous updates. Omitted CSt can be inferred on the basis of the consistency constraints.
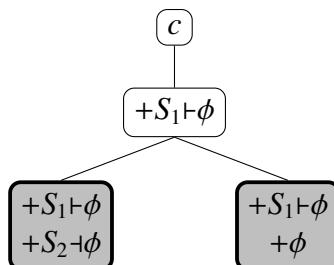
an update proposal where the speaker S_1 offers the addressee S_2 "not one, but two continuations" within a CS. This is either an update with ϕ–which corresponds to the intended perlocutionary effect of the assertion of ϕ–or a continuation where S_2 casts doubt about ϕ, expressing their disagreement with ϕ. Krifka models this disagreement as $S_2\dashv\phi$, which corresponds roughly to 'S_2 announces doubts about ϕ'. $S_2\dashv\phi$ might allow for continuations with $S_2\vdash\neg\phi$, while $S_2\dashv\phi$ is incompatible with ϕ and $S_2\vdash\phi$. Krifka (2022) formally captures the effect of an illocutionary act as follows:

(24)   Update proposal with ϕ (assertion)
        $\cdot S_1\vdash\phi$; $[\cdot\phi \vee \cdot S_2\dashv\phi] = \{c + S_1\vdash\phi + \phi$, $c + S_1\vdash\phi + S_2\dashv\phi\}$

Let us decompose each step. Note first that the overall update is of the shape of a dynamic conjunction as defined in (7), where the speaker updates the CS first with $S_1\vdash\phi$. The second update with the disjunct of ϕ and $S_2\dashv\phi$ is the one where S_2 may now react. Note that with the disjunction in (24), we increased the root of the CS, thus obtaining two roots with (24). But as Krifka (2022, 98) stresses, multiple roots "stand for issues that are still undecided". Now, S_2 can accept only ϕ or even commit to ϕ, thus updating the CS with $S_2\vdash\phi$ and ϕ; both reactions that are compatible with the first disjunct. Or, S_2 disagrees with ϕ by either committing to $\neg\phi$ or expressing doubt about ϕ through $S_2\dashv\phi$, which is compatible with the second disjunct. Krifka (2022) calls these reactions *assent* (accept ϕ), *confirm* (commit to ϕ), and *dissent* (commit to $\neg\phi$). As he further stresses, these three reactions have in common to "reduce the root of the CS that was increased by the disjunction" in (24). Note as well that any of S_2's reactions are consistent with respect to the consistency constraints after S_1's update with $S_1\vdash\phi$. Visually, this point of departure after S_1's assertion would look like (25) in a simplified manner.

(25)   Update proposal with ϕ (assertion)

Assuming the positive case here where S_2 agrees and even commits to ϕ, S_2's commitments is compatible with the first disjunct in (24). This leads – along with ϕ being added to the CSt – to an update with $S_2 \vdash \phi$, written as $\cdot S_2 \vdash \phi$. The updated CS C_2 would then look as follows:

(26) $C_2 = C_1 + \cdot\phi + \cdot S_2 \vdash \phi$

The same pattern applies to cases when a speaker asserts and thus proposes and update with $\neg\phi$ such that we get (27):

(27) $C_0 + \cdot S_1 \vdash \neg\phi \, ; \, [\cdot\neg\phi \vee \cdot S_2 \dashv \neg\phi]$

If S_1 asserts $\neg\phi$, S_1 makes an update with $S_1 \vdash \neg\phi$ and also intends to update $\neg\phi$, i.e. the primary perlocutionary act of asserting $\neg\phi$. It is important to stress that asserting, i.e. committing to $\neg\phi$, is not the same as not asserting ϕ which is subject to illocutionary negation, which we will cover now in §3.3

3.3   Update prevention with denegation

Illocutionary negation (Searle, 1969; Hare, 1970) or denegation[3] (Searle & Vanderveken, 1985) – we previously used and will keep using the latter term – delineates a nuanced aspect in speech act theory that pertains to the negation of an illocutionary operator 'F'. Affecting the pragmatic rather than the semantic dimension, denegation "changes the character of the illocutionary act" (Searle, 1969, 32), rather than the truth-alteration of the proposition. From this immediately follows that propositional negation changes the character of the proposition but not the character of the illocutionary act. To distinguish the two accordingly, Searle uses '$\sim$' for denegation and '$\neg$' for propositional negation, and we will follow suit. He illustrates the differences between denegation and propositional negation with the case example (28).

(28)   a.   I promise to come. $F(\phi)$
         b.   I promise not to come. $F(\neg\phi)$
         c.   I don't promise to come. $\sim F(\phi)$

---

[3]Hare (1970) uses the 'external negation', in contrast to 'internal negation' (the propositional negation), deriving it from Searle's examples in (28). Hoche (1995) also uses the term neuistic negation which he attributes to Hare (1952, 1970).

The negation of (28-a) may come in two distinct shapes that differ in their respective interpretations: In (28-b), the commissive speech act causes a commitment to abstain from coming, i.e. the negation applies to the proposition which we then analyze as an illocutionary force operator F taking scope over a negated proposition $(\neg\phi)$ which yields the form $F\neg\phi$. (28-c), on the other hand, denotes a refusal to make such a promise and thus commitment altogether: The negation applies to the illocutionary operator F which takes scope over the non-negated proposition ϕ, resulting in the logical interpretation $\sim F\phi$. Searle (1969, 32) further extends this juxtaposition of $F\neg\phi$ and $\sim F\phi$ beyond commissives. To name some of them, directives such as *Don't do it* express a command for $\neg\phi$ (= $F\neg\phi$), in contrast with 'I don't ask you to do it' that expresses a refusal of a command to ϕ (= $\sim F\phi$), or 'I don't say there aren't any horses', which is a denial of an assertion of ϕ (= $\sim F\neg\phi$), compared to 'There aren't any horses' that describes a straightforward assertion of $\neg\phi$ (= $F\neg\phi$).

In their logic of illocutionary acts, Searle & Vanderveken (1985, 4) describe denegation as a "complex illocutionary act [that] involves the negation of the illocutionary force" and "whose aim is to make it **explicit** [my emphasis, SB] that the speaker does not perform a certain illocutionary act". They also conclude that denegations are not success-functional, which means here that by virtue of non-performance of an illocutionary act, a speaker does not perform an act of illocutionary denegation. Searle & Vanderveken illustrate this asymmetry with the fact that from remaining silent, it does not follow that the speaker declined or refused to make a promise. In other words, someone's silence does not amount to the same as saying 'I do not promise' as the latter represents the explicit illocutionary act of the negation of the illocutionary force.

In the context of *CS*s, Cohen & Krifka (2011, 2014) describe denegations as meta-speech acts and explain that one of their characteristis is that they "must be expressed on the level of commitment spaces directly" (Cohen & Krifka, 2014, 50). What does this mean? Since denegations are refusals to perform a speech act, they do not affect a single *CSt* in that they do not update the *CSt* in an additive way; as the absence of a speech act entails that no commitment was made, nothing is proposed to the *CSt*. Instead, as Cohen & Krifka continue, the effect of a denegation affects the overall *CS* in that they constrain legal movements from one *CSt* to another *CSt*. Put differently, a denegation functions as removing the possibility of an update within a *CS*

which affects its overall development. Thus, denegations are meta-speech acts insofar as they are not interpreted as updates of a single CSt but serve to prune legal movements within a given CS, that is, they restrict certain movements from some CSts to other CSts within the CS (Cohen & Krifka, 2011, 2014; Krifka, 2022). Just as Searle (1969), Krifka (2022) formalizes denegation as '$\sim$' paired with the update operator '$\cdot$', where the combination '$\sim\cdot$' corresponds to 'prevent update with'. Krifka (2022) generally defines denegation as follows, which also serves as a visualisation what a denegation does to a particular CS, in this case the CS C_0.

(29) $\sim\cdot\phi(C_0) = \{c, c + \psi, c + \neg\phi, c + \neg\psi, c + \neg\phi + \psi, c + \neg\phi + \neg\psi\}$

As (29) captures the prevention of an update with ϕ, the possible continuations from c, the root of C_0 do not include ϕ in C_0 any more, only its negation. In other words, (29) prevents updates with ϕ. Note as well that the root of the CS is left intact. As CSs are sets of CSts, we see that c, the least informative CSt in C_0 and thus root of C_0, is still a member of C_0 after the denegation of ϕ. This is where the meaning of the term 'meta-speech act' comes into full play as normally, a speech act updates a CS and thus changes the root of a CS by adding the respective proposition to the CSt, thus reducing the CS which also affects their root c; compare this with the definition of an update with an assertion in (24). Thus, by denegation, the root is left unchanged, and the speaker merely signals that at the time of utterance, (s)he refuses to update C_0 with ϕ, leaving it open whether ϕ holds or not (Krifka, 2022, 103).

We may apply the idea of denegation within a CS to an actual example in Spanish such as (30), where the speaker S_1 also refuses to assert that it rains.

(30)   No digo   que llueva.
         not say.1P.SG.IND that rain.3P.SG.SBJV
         'I don't say that it rains.'
         (*Spanish*)
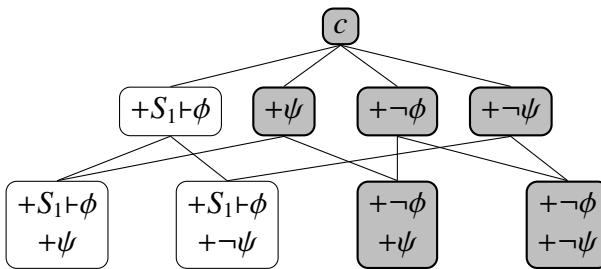
In (30), S_1 explicitly refuses to update the CS with his/her commitment to ϕ, formally rendered as $\sim\cdot S_1 \vdash \phi$. Note as well that with the explicit refusal of performing an assertion which, in turn, does not cause a commitment, we correctly predict the subjunctive in (30), which signals the lack of S_1's commitment to ϕ. As the goal of a speech act that causes a commitment of

the form $\cdot S_1 \vdash \phi$ is to update the CS with a commitment to ϕ, $\sim\cdot S_1 \vdash \phi$ causes the prevention of an update with the commitment to ϕ. We can thus write the effect on C_0 by an update prevention by S_1 as (31).

(31) $\sim\cdot S_1 \vdash \phi(C_0) = \{c,\ c + \psi,\ c + \neg\phi,\ c + \neg\psi,\ c + \neg\phi + \psi,\ c + \neg\phi + \neg\psi\}$

For the sake of transparency, we may also visualize this in (32) where we can see that nothing except the pruning of further development within the CS is the outcome of (30). These pruned developments are the whited-out CSt in the given CS in (32), that is, those CSts that contain $S_1 \vdash \phi$.

(32) C_0 after update prevention with $\sim\cdot S \vdash \phi$

In the remainder of this section, we want to look at meta-speech acts in situations where a speaker responds to an update proposal. At this point, we want to introduce the meta-speech act that Cohen & Krifka (2011, 2014) describe as GRANT, a denegation of $\neg\phi$, that is, the refusal to assert $\neg\phi$. Krifka (2022) lists *okay* as a reaction to an update proposal or conversational move of non-objection of the form $\sim\cdot S \vdash \neg\phi$, which captures the original notation as proposed in Cohen & Krifka (2011, 2014) for GRANTs. Let us again depart from the situation where a speaker S_1 offers to update a CS with ϕ *qua* assertion which we repeat again in (33).

(33) S_1's proposes to update C_0 with ϕ (assertion)
        $C_0 + \cdot S_1 \vdash \phi\,;\,[\cdot\phi \vee \cdot S_2 \dashv \phi]$

As the primary perlocutionary act is an update with ϕ that still depends on the addressee's S_2 reaction, S_2 is given the choice to either accept ϕ, or to cast doubt over ϕ. If the addressee, S_2 in this case, chooses *okay* as a response, the update will be such that the speaker accepts ϕ to the newly established CSt *via* non-objection (Krifka, 2022, 97). Crucially, this does not mean that S_2 is

also committed to ϕ. Given the choice through S_1's update proposal and S_2's reaction with *okay* of the form $\sim\cdot S_2\vdash\neg\phi$, $\sim\cdot S_2\vdash\neg\phi$ is only compatible with the first disjunct in (33), leading to the update with ϕ. Let us exemplify this again, this time taking the following fragment from Spanish in (34).

(34)   a.   Juan llegó   tarde ayer.
             Juan arrive.3P.SG.IND.PST late   yesterday
             'Juan arrived late yesterday.'
       b.   Vale.
             okay
             'Okay.'
       (*Spanish*)

Speaker S_1 asserts (34-a) and thus proposes to add ϕ to update the root of C_0. By asserting $\phi = [\![$Juan arrived late yesterday$]\!]$, S_1 adds to C_0 that (s)he vouches for the truth of ϕ, the illocutionary act, which results in the addition of $S_1\vdash\phi$ to C_0, which corresponds to the update as shown in (25). The primary perlocutionary act of (34-a) is then to update the CS with ϕ. At this point, S_2 is given a choice to agree or disagree. In (34-b), S_2 decides to react with a weak affirmative *vale* ('okay'). In Spanish, *vale* works in a similar way to *okay*, a denegation of the form $\sim\cdot S_1\vdash\neg\phi$, in that the speaker acknowledges ϕ without necessarily committing to ϕ. It is merely a move of acquiescence or acknowledgement that ϕ is true. In technical terms, then, *vale* prevents an update with $\neg\phi$. As Krifka (2022) argued for 'okay', this prevention of an update with $\neg\phi$ is only compatible with the first disjunct in (33) such that ϕ gets added. We thus establish ϕ after S_2's utterance of *vale* formally in (35).

(35)   Speaker S_2 prevents update with $\neg\phi$ at C_1
       $C_1 + \sim\cdot S_1\vdash\neg\phi = C_0 + \cdot S_1\vdash\phi + \cdot\phi$

Note that with ϕ in the updated CS, S_2 cannot commit to $\neg\phi$ anymore, despite S_2's lack of commitment to ϕ. The following example in (36-b) illustrates this. Here, S_2, having responded with (36-b) after S_1's assertion of (36-a), merely concedes that S_1 is true. The mere acknowledgement of ϕ, however, does not entail that S_2 is also committed to ϕ. We would thus have the result of (35). However, note that the follow-up in (36-b), S_2's commitment to $\neg\phi$, is infelicitous.

(36)   a.   Juan llegó   tarde ayer.
              Juan arrive.3P.SG.IND.PST late   yesterday
              'Juan arrived late yesterday.'

        b.   Vale, tienes   razón... #però no llegó
              okay have.2P.SG.IND reason   but   not arrive.3P.SG.IND.PST
              tarde ayer.
              late   yesterday
              ~'Okay, you're right, but he didn't arrive late yesterday.'
        (*Spanish*)

S_2's follow-up commitment in (36-b) is inconsistent with the newly estab-
lished *CS* such that it violates the claim/proposition consistency constraint
(15). Thus, (36-b) shows that despite a lack of commitment, ϕ being estab-
lished is enough to prevent S_2 from committing to $\neg\phi$.

3.4   A provisional treatment of accommodation

As presupposition will play a role in our analysis, we will have to briefly
address the matter of accommodation (Lewis, 1979) and suggest a first im-
plementation of the idea within a *CS* model. To the best of our knowledge,
there is no proposal in the *CS* model for how accommodations are mod-
eled, which is why we will suggest a preliminary idea of how it could be for
the present purpose.

    Let us depart with a general note on the notion of accommodation. Speak-
ers uttering a sentence often display a habit of presupposing things that have
not been part of the *CG*, or *CSt*, in our framework. This often happens
through presupposition accommodation that von Fintel (2008, 137) suc-
cinctly describes as follows:

> Presupposition accommodation is the process by which the context
> is adjusted quietly and without fuss to accept the utterance of a sen-
> tence that imposes certain requirements on the context in which it is
> processed.

    To visualize a case of accommodation, take the case of (37).

(37)   En Joan va   deixar   de fumar.
        the Joan go.3P.SG.IND leave.INF of smoke.INF

'Joan stopped smoking.'
(*Catalan*)

Upon uttering (37), the speaker will accommodate the content that Joan used to smoke, often without further objection. 'Adjusted quietly' and 'without fuss' are two aspects in von Fintel's definition that will be relevant for us in our preliminary idea of presupposition accommodation in a CS insofar that it suggests that context adjustment happens without necessarily involving the addressee's moves for it to happen (i.e. quietly and without fuss). If we recall Krifka's (2022) idea of update proposals with assertions, the speaker S_1 first gives the addressee a reason to accept ϕ by vouching for the truth of ϕ, followed by S_2's possible reactions, namely the acceptance of ϕ or the disagreement with ϕ. Only if S_2 does not object to ϕ, the update with ϕ is successful. If we wanted to capture the property of presupposition accommodation of happening 'quietly' and 'without fuss', then our idea of accommodation in a CS model should not involve the part that the update depends on S_2's reaction.

Another relevant aspect for our formalization here is the question of what we identify as the 'content' that is accommodated. A pointer comes from Potts (2015, 175) who targets this question of what exactly is added to the CG:

> When they [=speakers, remark SB] do this, they are implicitly asking the other discourse participants to accommodate (Lewis, 1979) that information, by adding it to the common ground, or at least by adding to the common ground that the speaker is publicly committed to that information for the purposes of the current interaction.
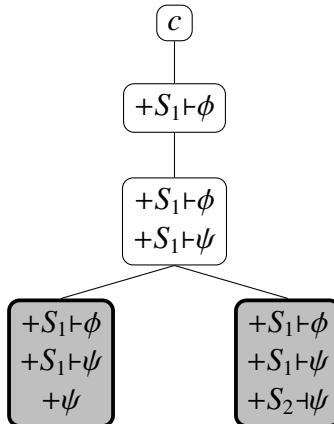
The description of accommodation by Potts (2015) in terms of content addition implies a minimal and a maximal assumption of what the accommodated content really is. The minimal assumption would be the accommodation of a speaker's commitment in the sense that $S \vdash \phi$ gets added to the CSt, whereas the maximal assumption would correspond to adding, on top, the proposition the speaker is committed to, i.e. ϕ. As we have argued in Chapter 4 that presuppositions can best be identified as speaker commitments, we opt for the minimal assumption and suggest for a CS-model that accommodation involves an update with a speaker commitment.

Let us put everything together we have so far: Presupposition accommodation occurs quietly, unlike an update proposal with an assertion, where

the addressee actively decides whether the content enters the CG. Accommodation, in contrast, bypasses the addressee's explicit acceptance; the content is added to the CG without requiring their input. Nonetheless, following the minimal assumptions in Potts (2015), this added content may be a commitment. This is further supported by the general observation that presuppositions are often treated as a speaker commitment (i.a Searle & Vanderveken, 1985; Peters, 2016; Mazzarella et al., 2018). In other words, we can plausibly regard presupposition accommodation of a speaker S_1 as a 'quiet' update with $S_1 \vdash \phi$. What we are left with is the question of which kind of formal update would be the best candidate to display this. We will suggest that accommodation can be modelled as a dynamic conjunction. To visualize this, let us assume again the example in (37) that presupposes that Juan used to smoke. A speaker S_1 uttering (37), then, would accommodate the presupposition, i.e. S_1's commitment to $\phi = [\![\text{Joan used to smoke}]\!]$, while asserting $\psi = [\![\text{Joan stopped smoking}]\!]$. Accommodation in the case of (37) would then look like (38-a). The CS of the update is given in (38-b), the update after uttering (37) in (38-c).

(38)   a. $S_1 \vdash \phi \, ; \, S_1 \vdash \psi \, ; \, [\cdot \psi \ \vee \ \cdot S_2 \dashv \psi]$
        b.   (38-a) $= \{c + S_1 \vdash \phi + S_1 \vdash \psi + \psi, c + S_1 \vdash \phi + S_1 \vdash \psi + S_2 \dashv \psi\}$
        c. $C_1 = C_0 + \cdot S_1 \vdash \phi + \cdot S_1 \vdash \psi \, ; \, [\cdot \psi \ \vee \ \cdot S_2 \dashv \psi]$

(39)   Visualization of (38-c)

(38) would then achieve the desired outcome of what accommodation is, namely the 'quiet' update with $S_1 \vdash \phi$, quiet in the sense that $S_1 \vdash \phi$ simply gets

added without further commotion. The new CS C_1 would then have two possible developments through the assertion of ψ, as the update with ψ is still left undecided and depends on S_2's reaction. On the analysis in (38), the speaker then vouches for both ϕ and ψ. As the assertion of 'Joan stopped smoking' is the main point of the utterance in (37), the speaker usually would react to that proposal and leave $S_1 \vdash \phi$ uncommented. However, it may as well be the case that S_2 may react in the sense of 'Hey wait a minute!', as in (40-a) or (40-b).

(40) En Joan va   deixar   de fumar.
      the Joan go.3P.SG.IND leave.INF of smoke.INF
      'Joan stopped smoking.'
      a. Ep! Un moment, no sabia   que en Joan
          INJ a   moment not know.1P.SG.IND.IMPF that the Joan
          fumava!
          smoke.3P.SG.IND.IMPF
          'Hey, wait a minute, I didn't know Joan smoked.'
      b. Ep! Un moment, en Joan no havia
          INJ a   moment the Juan not have.3P.SG.IND.IMPF
          fumat   mai!
          smoke.PPRT never
          'Hey, wait a minute, Joan never smoked.'
      (*Catalan*)

Since the added content through presupposition accommodation in (40) is $S_1 \vdash \phi$ and not ϕ, (40-b) predicts correctly that the speaker addresses the presupposed content in such a way that permits them to commit to $\neg\phi$ without resulting in any inconsistencies with the root of C_1. If ϕ, rather than $S_1 \vdash \phi$, had been accommodated into the CS at the time of utterance of (40), then (40-b) should have been infelicitous due to a violation of claim consistency, contrary to fact. In other words, accommodating ϕ instead of $S_1 \vdash \phi$ would have led to inconsistent commitments on the part of the addressee, which is not what we observe. Thus, we think that the accommodation of $S \vdash \phi$ is a safer bet that maintains the consistency within a CS. In the current proposal for formalizing presupposition accommodation within a commitment space (CS), the addressee may respond accordingly, e.g., by expressing disagreement, as in (40-b), which corresponds to $S_2 \vdash \neg\phi$. With (40), we have chosen

an example where not only a speaker S_1 asserts and thus commits to ϕ but also accommodates a presupposition (read: speaker commitment) in the form of $S_1 \vdash \phi$. The difference between the assertion and the commitment in a CS-framework is that the accommodated content is not happening in the form that S_1 offers a continuation to S_2 to agree or disagree with the proposition S_1 is committed to, but rather just updates it right away and leaves it as that. S_2 may still react to the proposition $S_1 \vdash \phi$ at a later point without threatening the consistency of the established CSt with $S_1 \vdash \phi$, as seen in (40-a) and (40-b). Despite the questions that such a preliminary analysis of accommodation in the CS model might raise and still give room for alternatives, the current modeling serves the purposes of our analysis in §4, and we will stop the discussion on accommodation here.

4 Mood alternation and their effect in Commitment Spaces

With the necessary theoretical groundwork in place, we now turn to the central aim of this chapter: examining how mood alternation impacts the configuration of CSs. As we will show, mood selection plays a crucial role in shaping the structure of a CS, with each choice carrying distinct consequences for the involved discourse participants.

As we have argued previously, indicative mood, in particular, signals commitment in a normative sense. Presuppositions, too, convey speaker commitment; the presupposed content is normally marked with the indicative. Assertions mark speaker commitment as well, but as Giannakidou & Mari (2021) succinctly point out, "indicative mood is not fully isomorphic to assertion, contrary to what was previously thought" —a point we have also corroborated in Chapter 4.

Accordingly, we will treat the indicative as the default mood and assume that $x \vdash \phi$ holds, with x identified case by case. The challenge lies in modeling the relevant examples in a way that correctly predicts the expected continuations in the unfolding of CSs across mood choice. What follows is our first attempt at such an analysis by looking at some preliminary cases. Our exploration of mood alternation will show that mood choice significantly affects the setup and evolution of CSs. To demonstrate this, we draw on a non-exhaustive set of examples from each type of argument clause examined in the preceding chapters. We begin with non-factive environments, focusing on mood alternation under 'not say' and 'not believe'. We then turn to

RSVs, subdivided into positive RSVs such as 'admit' as well as negative RSVs like *negar* (Cat./Sp. 'deny' or 'refuse'). Our selection of examples is guided by their potential to most clearly reveal the discourse-level consequences of mood alternation within *CS*s.

4.1   Case examples for non-factives

4.1.1   Case example 1: 'Say'

Before delving into the analysis of mood alternation under *no decir*, let us first revisit the relevant data—specifically, the example in (41).

(41)   Juan no dijo   ayer   que el alcalde
        Juan not say.3P.SG.IND.PST yesterday that the mayor
        fuera /   era   responsable.
        be.3P.SG.SBJV.PST be.3P.SG.IND.IMPF responsible
        'Juan didn't say yesterday that the mayor was responsible.'
        (*Spanish*)

In Chapter 4, §3.1.4, we argued, following Bosque's observations, that distinct foci target different constituents, and that mood plays a crucial role in this. For instance, in the case of subjunctive, focus is restricted to the whole CC, and this focus takes the form of corrective focus: it signals that what Juan said was not ϕ, but something else. In contrast, with indicative mood, focus can fall on various constituents. For example, focus on *ayer* ('yesterday') conveys that Juan said something, but not yesterday. Focus on *Juan* implies that someone else, not Juan, said that the mayor is responsible. Finally, focus can target the entire sentence, yielding polarity focus (Geurts & van der Sandt, 2004), which in this context denies the proposition that Juan said yesterday that the mayor is responsible. We will examine three of these cases: focus on *ayer*, on the CC, and on the entire sentence.

   Let us begin with the latter case, which features an indicative CC and places focus on the entire sentence, as indicated by '$[...]_F$'.

(42)   [Juan no dijo   que el alcalde era
        Juan   not say.3P.SG.IND.PST that the mayor be.3P.SG.IND.IMPF
        responsable]$_F$.
        responsible

'Juan didn't say that the mayor was responsible.'
(*Spanish*, Bosque, 1990)

Recall that, as Bosque explains, the negation *no* in (42) scopes over the whole sentence such that it results in external or metalinguistic negation (Horn, 1985, 1989). According to him, the interpretation of (42) is that of (43).

(43)   No es   cierto que Juan dijera   que el
        not be.3P.SG.IND true   that Juan say.3P.SG.SBJV.PST that the
        alcalde era   responsable
        mayor be.3P.SG.IND.IMPF responsible
        'It is not true that Juan said that the mayor was responsible.'
        (*Spanish*, Bosque, 1990)

Since example (43) is a paraphrase of (42), we may infer from this that in (42), Juan might not have performed any speech act at all that commmitted him to ϕ or something else. Especially the latter aspect is relevant for the interpretation of (42). The infelicitous follow-up in (44) seems to rule out a corrective interpretation. That is, uttering (43), we do not get a reading in the sense that Juan (S_3) said something, but not *el alcalde era responsable*. Thus, a corrective interpretation in the sense of 'Juan did not say ϕ, but ψ' is less plausible to assume for (42).

(44)   No es   cierto que Juan dijera   que el
        not be.3P.SG.IND true   that Juan say.3P.SG.SBJV.PST that the
        alcalde era   responsable, #sino que lo
        mayor be.3P.SG.IND.IMPF responsible   but   that 3P.SG.NEUT.ACC
        era   su asistente.
        be.3P.SG.IND.IMPF his assistant
        ~'It is not true that Juan said that the mayor was responsible but rather that it was his assistan.'
        (*Spanish*, Bosque, 1990)

The observations so far give us reasons to assume that the interpretation of asserting (43) would cause a commitment to the proposition that it is not the case that Juan said that the mayor is responsible, i.e. the negation of the proposition $S_3 \vdash \phi$ ('Juan vouches for the truth of ϕ'). The strongest motivation for this assumption comes from Bosque's paraphrase (43), which
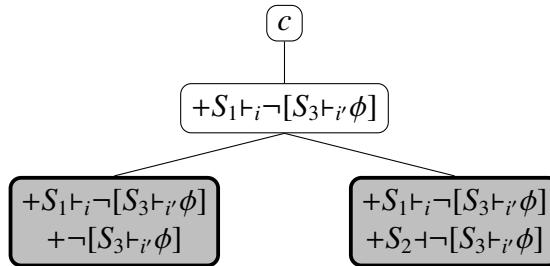
suggests that the speaker (S_1) asserting (42) explicitly says that Juan did not vouch for the truth of the proposition $\phi = $ ⟦the mayor is responsible⟧.

Note as well that the indicative in the CC of *no decir* in (42) and (43) signals a commitment to ϕ by some speaker S. However, the committing speaker S cannot be mapped to the speaker uttering (42). This is because *decir* functions as a filter such that the *origo* of the sentence *el alcalde era responsable* would not be the speaker, but Juan. Hence, the indicative signals that Juan vouches for the truth of ϕ. Crucially, however, we need yet to consider the negation that scopes over the whole proposition 'Juan vouches for the truth of ϕ'. That being the case, it now expresses that it is not the case that Juan vouched for the truth of 'the mayor was responsible'. So what the speaker in (42) commits to is the proposition 'it is not the case that Juan vouches for the truth of ϕ', which is exactly what the paraphrase (43) of (42) captures. Note that treating $S \vdash \phi$ as a proposition is licit, as Krifka (2024, 31) pointed out in the context of assertions that a public commitment for the truth "can be expressed by a proposition as well, the proposition that the speaker guarantees the truth of the asserted proposition". Thus, if a proposition 'S vouches for the truth of ϕ' can be a proposition itself, we can employ propositional negation as in $\neg[S_3 \vdash \phi]$ to unambiguously express that it is not the case that a third party (S_3), in this case Juan, is vouching for the truth of ϕ. So far, we have not considered the fact that (42) is in the past tense such that the meaning would be closer to 'Juan did not vouch for the truth of ϕ'. Without going into much detail, let us introduce a temporal dimension to commitments by adding an index i to the commitment operator, assuming that i' stands for yesterday and i for the utterance time such that $i > i'$. We will employ these indices where necessary. Thus, when S_1 asserts (43), S_1 proposes an update with $\neg[S_3 \vdash_{i'} \phi]$, expressing that Juan did not vouch for ϕ at i'. This results in the updated commitment space in (45-b), based on the proposal in (45-a).

(45)   a. $\cdot S_1 \vdash_i \neg[S_3 \vdash_{i'} \phi]$; $[\cdot \neg[S_3 \vdash_{i'} \phi]$; $\cdot S_2 \dashv \neg[S_3 \vdash_{i'} \phi]]$

        b.   (45-a) $= \{c + S_1 \vdash_i \neg[S_3 \vdash_{i'} \phi] + \neg[S_3 \vdash_{i'} \phi], c + S_1 \vdash_i \neg[S_3 \vdash_{i'} \phi],$
              $S_2 \dashv \neg[S_3 \vdash_{i'} \phi]\}$

        c. $C_1 = C_0 + \cdot S_1 \vdash_i \neg[S_3 \vdash_{i'} \phi]$; $[\cdot \neg[S_3 \vdash_{i'} \phi] \lor \cdot S_2 \dashv \neg[S_3 \vdash_{i'} \phi]]$

We may also render the *CS* visually, as done in (46).

(46)   Visualization of (45-c)

This rendition is insofar plausible as the speaker cannot say, i.e. commit to 'Juan said yesterday that the mayor is responsible' as this would incur contradictory commitments and thus a violation of a claim consistency constraint (14).
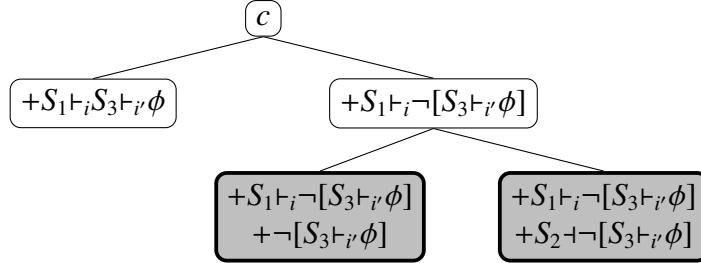
(47)   #Juan no dijo   ayer   que el   alcalde
        Juan not say.3P.SG.IND.PST yesterday that the mayor
        era   responsable, pero dijo   ayer
        be.3P.SG.IND.IMPF responsible   but say.3P.SG.IND.PST yesterday
        que el   alcalde era   responsable.
        that the mayor be.3P.SG.IND.IMPF responsible.
        'Juan didn't say yesterday that the mayor was responsible, but he
        said yesterday that the mayor was responsible.'

However, the analysis in (45-b) and (46) remains incomplete, and we have not talked about focus yet. As indicated in (42), the focus lies on the entire sentence, which, according to Geurts & van der Sandt (2004), qualifies as a polarity focus that triggers a (trivial) presupposition of the form $S_1\vdash_i\neg[S_3\vdash_{i'}\phi] \vee S_1\vdash_i S_3\vdash_{i'}\phi$. We thus implement this presupposition in the CS and write it down as we did in (48-a). This update creates a new CS C_1 with two possible developments, as written down in (48-b). (48-c) shows the overall updated CS C_1, which corresponds to its visualisation in (49).

(48)   a. $[\cdot S_1\vdash_i S_3\vdash_{i'}\phi \vee \cdot S_1\vdash_i\neg[S_3\vdash_{i'}\phi]] ; \cdot S_1\vdash_i\neg[S_3\vdash_{i'}\phi] ; [\cdot\neg[S_3\vdash_{i'}\phi] \vee \cdot S_2\dashv\neg[S_3\vdash_{i'}\phi]]$
        b.   (48-a) = $\{c + S_1\vdash_i\neg[S_3\vdash_{i'}\phi] + \neg[S_3\vdash_{i'}\phi], c + S_1\vdash_i\neg[S_3\vdash_{i'}\phi],$
               $S_2\dashv\neg[S_3\vdash_{i'}\phi]\}$
        c. $C_1 = C_0 + \cdot S_1\vdash_i\neg[S_3\vdash_{i'}\phi] ; [\cdot\neg[S_3\vdash_{i'}\phi] \vee \cdot S_2\dashv\neg[S_3\vdash_{i'}\phi]]$

Our diagram of the *CS* based on the utterance of (42) would then look like (49), where we implemented the trivial presupposition of the polarity focus, which is then followed by S_1's assertion of (42). This assertion results in an update proposal with the proposition $\neg[S_3 \vdash_{i'} \phi]$, leaving S_2 with the decision whether to accept $\neg[S_3 \vdash_{i'} \phi]$ or not.

(49)   Visualization of (48-c)

$$c$$

$$+S_1 \vdash_i S_3 \vdash_{i'} \phi \qquad +S_1 \vdash_i \neg[S_3 \vdash_{i'} \phi]$$

$$\begin{array}{c} +S_1 \vdash_i \neg[S_3 \vdash_{i'} \phi] \\ +\neg[S_3 \vdash_{i'} \phi] \end{array} \qquad \begin{array}{c} +S_1 \vdash_i \neg[S_3 \vdash_{i'} \phi] \\ +S_2 \dashv \neg[S_3 \vdash_{i'} \phi] \end{array}$$

The overall interpretation of (42), then, would be that of two consecutive dynamic updates. Through the (trivial) presupposition triggered by the polarity focus, the speaker first updates the *CS* with the disjunction $\cdot S_1 \vdash_i \neg[S_3 \vdash_{i'} \phi] \lor \cdot S_1 \vdash_i S_3 \vdash_{i'} \phi$. Through the assertion in (42), the speaker opts for the disjunct $S_1 \vdash \neg[S_3 \vdash_{i'} \phi]$, from which follows the dynamic update with the assertion of $\neg[S_3 \vdash_{i'} \phi]$, which leads to S_2's decision whether to accept $\neg[S_3 \vdash_{i'} \phi]$ or reject $\neg[S_3 \vdash_{i'} \phi]$, following Krifka's modeling of an update proposal through assertion. Thus, (42) appears to behave like a plain assertion, with the only difference being that it bears polarity focus, which triggers a trivial presupposition. While Geurts & van der Sandt (2004) even conclude that "[s]emantically this boils down to inducing no presupposition whatsoever", we may just as well adopt the version of the analysis in (46), since the outcome remains the same.

Let us now move to the second case example with focus on the adverb *ayer* ('yesterday') in (50).

(50)   Juan no dijo   [ayer]$_F$ que el   alcalde era
        Juan not say.IND yesterday that the mayor be.3P.SG.IND.IMPF
        responsable.
        responsible
        'Juan didn't say yesterday that the mayor is responsible,'
        a. #de hecho, no lo dijo   nunca.
                of   fact not 3P.SG.NEUT.ACC say.3P.SG.IND.PST never
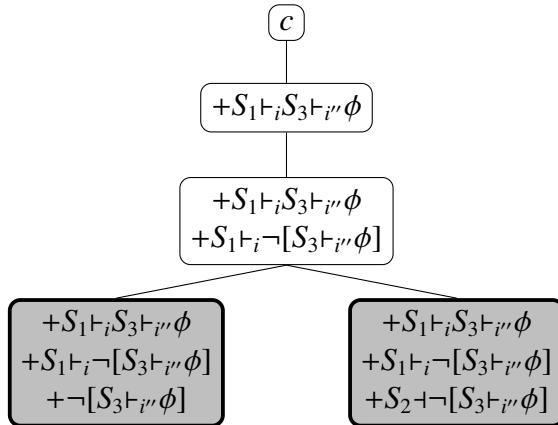
'in fact, he never said it.'

b.   sino el   martes   pasado.
      but the Tuesday past
      'but he said it last Tuesday.'
(*Spanish*)

Here, the speaker expresses that Juan did say that the mayor is responsible—but not yesterday, as indicated by focus on ayer. Thus, the utterance of (50) does not exclude that Juan said ϕ = ⟦the mayor was responsible⟧, as the infelicity of (50-a) suggests. Rather, the speaker is committed to 'Juan said, at some earlier point, that the mayor is responsible'. This means that, in addition to the presupposition triggered by focus on *ayer*, Juan is committed to ϕ, a commitment that must be captured accordingly. Let i' represent yesterday and i'' any time before yesterday, such that $i' > i''$. If Juan made a commitment before yesterday, we represent it as $S_3 \vdash_{i''} \phi$. Since commitments persist by default (Geurts, 2019b), Juan's commitment at i remains in force—assuming it hasn't been withdrawn—such that at the utterance time i of (50), he is still committed to ϕ, based on his earlier commitment made before yesterday (i''). What this makeshift solution helps us to tease apart is that Juan vouched for the truth at i'', not i'. Being presupposed, the speaker is committed to 'Juan said that ϕ at i''', but this is not corresponding to $S_3 \vdash_{i'} \phi$ but to $S_3 \vdash_{i''} \phi$. As such, to express the sentence of (50) , we will write it as follows:

(51)   a. $\cdot S_1 \vdash_i S_3 \vdash_{i''} \phi$; $\cdot S_1 \vdash_i \neg [S_3 \vdash_{i'} \phi]$; $[\cdot \neg [S_3 \vdash_{i'} \phi] \vee \cdot S_2 \dashv \neg [S_3 \vdash_{i'} \phi]]$
        b.   (51-a) = $\{c + S_1 \vdash_i S_3 \vdash_{i''} \phi + S_1 \vdash_i \neg [S_3 \vdash_{i'} \phi] + \neg [S_3 \vdash_{i'} \phi],$
              $c + S_1 \vdash_i S_3 \vdash_{i''} \phi + S_1 \vdash_i \neg [S_3 \vdash_{i'} \phi] + S_2 \dashv \neg [S_3 \vdash_{i''} \phi]\}$
        c. $C_1 = C_0 + \cdot S_1 \vdash_i S_3 \vdash_{i''} \phi + \cdot S_1 \vdash_i \neg [S_3 \vdash_{i'} \phi]$; $[\cdot \neg [S_3 \vdash_{i'} \phi] \vee$
              $\cdot S_2 \dashv \neg [S_3 \vdash_{i'} \phi]]$

In (51-a), we see that the speaker updates the CS with $S_1 \vdash_i S_3 \vdash_{i''} \phi$. This is the presupposed content of 'Juan said, at some earlier point, that the mayor is responsible'. This propsition gets added without any fuss to the the CS; it is accommodated. What follows then is the assertion of (50), resulting in an update proposal with $\neg [S_3 \vdash_{i'} \phi]$, which then depends on S_2's reaction. The visual rendition of the overall update is given in (52).

(52)   Visualization of (51-c)

(52) captures the overall idea insofar as the with the assertion of (50), the speaker first accommodates the presupposition, i.e. his commitment to 'Juan vouched for the truth of ϕ some time before yesterday (= i'')' and then asserts 'it is not the case that Juan vouched for the truth of ϕ yesterday (= i')'. The follow-up to the satement that Juan said it last Tuesday (50-b), for instance, is not a redundant in that it specifies the time when Juan undertook that commitment. The speaker merely accommodated that Juan said it before yesterday, which leaves open at what time Juan actually said that the mayor was responsible.

However, the notation with our temporal indices gives rise to some worries. If S_1 commits to 'S_3 vouches for the truth of ϕ at i'''' and to 'S_3 did not vouch for the truth of ϕ at i'', where i' follows after i'', this raises the question of whether S_3's commitment to ϕ still persists at i'. In other words, $\neg[S_3 \vdash_{i'} \phi]$ would suggest that S_3 does not vouch for ϕ at i'. However, this does not necessarily have to mean that S_3 has ceased to vouch for ϕ at i'. Rather, we may interpret this as simply indicating that S_3 does not renew or reiterate their commitment at i' such that it persists from the moment it was made (Geurts, 2019a). In other words, once someone vouches for the truth of ϕ at some time in the past, i.e. i'', and does not explicitly retract that commitment later (e.g., at i'), the lack of a renewed vouching at i' does not imply that the original commitment has been withdrawn. While there may be more elegant theoretical solutions to this issue, we will rely on this makeshift assumption in order to keep the overall framework manageable.

That said, the problem highlights an important direction for future work: any fully adequate theory of mood alternation will ultimately need to account for the temporal dimension of commitments and how they persist or shift over time in a CS.

We now turn to the final case, where *no decir* embeds a subjunctive clause, as illustrated in (53).

(53)   Juan no dijo   ayer   [que el   alcalde
        Juan not say.3P.SG.IND.PST yesterday that the mayor
        fuera   responsable]$_F$.
        be.3P.SG.SBJV.PST responsible
        'Juan didn't say that the mayor was responsible.'
        (*Spanish*)

As argued in Section 3.1.4 of Chapter 4, §3.1.4, the focus in (53) is on the CC, such that the presupposition of (53) is that Juan said something. We also mentioned that the CC bears corrective focus, which, following Bianchi (2013), presupposes a set of alternatives, and the focused constituent in the speaker's utterance of (53) excludes this alternative. In this case, the excluded alternative would be that Juan vouched for the truth of $\phi = [\![$the mayor is responsible$]\!]$. Thus, if the contextually relevant set of alternatives comprises propositions Juan committed to, then ϕ is not among them such that the overall interpretation of (53) would be that Juan said something, but not ϕ.
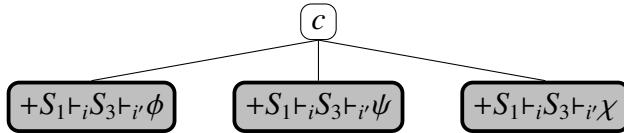
For simplicity, let us stipulate that the contextually relevant set contains only three members: $S_3\vdash_{i'}\phi$, 'Juan said that the mayor was responsible', $S_3\vdash_{i'}\psi$, 'Juan said that the mayor's assistant was responsible', and $S_3\vdash_{i'}\chi$, 'Juan said that the mayor has to look for the culprits'. We propose that the presupposition in (53), namely 'Juan said something', is represented in our CS as an update in the form of a disjunction, as shown in (54). This disjunction displays the set of contextually relevant alternatives, that is, the possible commitments Juan could have made by having asserted either ϕ, ψ, or χ. By introducing this disjunction, which generates a multiple root in a CS, the update leaves it unsettled which specific proposition Juan committed to; all options remain live possibilities following the update with (54). In this way, we capture the presupposition that 'Juan said something' as expressing that at least one of the alternatives must be true, but not specifying which one.

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(54) $[\cdot S_1 \vdash_i S_3 \vdash_{i'} \phi \;\vee\; \cdot S_1 \vdash_i S_3 \vdash_{i'} \psi \;\vee\; \cdot S_1 \vdash_i S_3 \vdash_{i'} \chi]$

The update of the *CS* C_0 would then result in a *CS* C_1, which consists of
a multiple root *CS* to express what we intend to express, namely that Juan
said something, which corresponds to the possibilities that we find in the set
of contextually relevant alternatives. In other words, what we understand as
the presupposition of 'Juan said something' in (53), we reflect as a multiple-
root *CS* C_1 in (55), which we visually display in the abridged *CS* in (55).

(55) $C_1 = C_0 + [\cdot S_1 \vdash_i S_3 \vdash_{i'} \phi \;\vee\; \cdot S_1 \vdash_i S_3 \vdash_{i'} \psi \;\vee\; \cdot S_1 \vdash_i S_3 \vdash_{i'} \chi]$

(56)   Visualization of (55)

Now, we have to capture the role of the focus on the CC in (53). By ut-
tering (53), the speaker signals with the focused CC that the proposition ϕ is
not the one that Juan committed to. This, in turn, would clearly signal that
the S_1 does not want to update the *CS* with $S_3 \vdash \phi$ anymore and excludes it as
an option. But how could we model this? One potential option would be to
assume that the speaker performs an operation that Krifka (2022) calls re-
traction which serves for a speaker to take back a commitment before under-
taking one that would have otherwise contradicted the previous one. That is,
if a speaker wants to commit to ϕ but is already committed to $\neg\phi$, the speaker
needs to retract the commitment to $\neg\phi$. Krifka (2022) models retraction of
a proposition ϕ as follows:
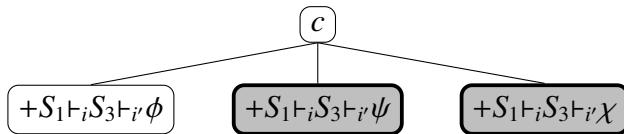
(57)   Retraction of ϕ
        $C + {}^-\phi = \{c - \{\phi\} \,|\, c \in C\}$
        (Krifka, 2022)

Without going into much detail of this operation, a retraction serves as a
way to revise by removing a commitment to a proposition that contradicts
another, thus removing the commitment before any further moves can be
made to avoid violations of any consistency constraint. That is, if S_1 is com-
mitted to ϕ but wants to commit to $\neg\phi$, S_1 first has to retract their com-
mitment to ϕ. In our particular case here, we might understand retraction

as a correction such that a retraction in (53) would be a correction in the sense that the potential updates we can make are no longer possible with $S_1 \vdash_i S_3 \vdash_{i'} \phi$. We would model this as in (58).

(58) $C_1 + {}^-S_1 \vdash_i S_3 \vdash_{i'} \phi = C_0 + [\cdot S_1 \vdash_i S_3 \vdash \psi \ \vee \ \cdot S_1 \vdash_i S_3 \vdash_{i'} \chi]$

(59)   Visualization of (58)
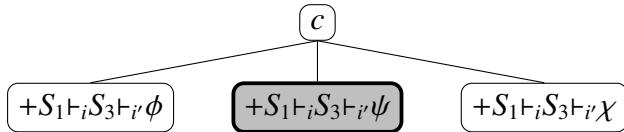
Here, retraction reduced the available options to choose from, leaving S_1 with a commitment to either $S_3 \vdash_{i'} \psi$ or $S_3 \vdash_{i'} \chi$. This then captures the overall reading of (53): 'Juan said something, but not ϕ'. Recall that with the multiple roots caused by a disjunction, the final update is still not settled. As such, we may continue with the idea here that while the speaker excluded that Juan said that the mayor is responsible, it is the case that he said something else, namely ψ or χ, but not ϕ. S_1 may then specify in a report what Juan actually said with a follow-up such as 'Juan said that the mayor's assistant was responsible', as in (60).

(60)   Juan no dijo   ayer   [que el alcalde
         Juan not say.3P.SG.IND.PST yesterday that the mayor
         fuera   responsable]$_F$, sino que lo
         be.3P.SG.SBJV.PST responsible   but that 3P.SG.NEUT.ACC
         era   su asistente.
         be.3P.SG.IND.IMPF his assistant
         'Juan didn't say that the mayor was responsible but that it was his
         assitant.'
         (*Spanish*)

With (60), the speaker then asserts and commits to $S_3 \vdash_{i'} \psi$, thus updating the *CS* further and resolving what Juan actually committed to. This move now specifies what Juan said such that it is no longer in limbo whether Juan said ψ or χ. The visualization is found in (61); we leave out the update proposal in (61).

(61)   *CS* update after (60)

$$c$$

$$+S_1\vdash_i S_3\vdash_{i'}\phi \qquad +S_1\vdash_i S_3\vdash_{i'}\psi \qquad +S_1\vdash_i S_3\vdash_{i'}\chi$$

Admittedly, a correct modeling of (53) in a *CS* is particularly challenging, and we do not think that this is the final word about it. Other candidates might equally be considerable, but they leave doubts whether they are much better options. For instance, one might simply assume that by uttering (53), the speaker would commit to $\neg[S_3\vdash_{i'}\phi]$ and thus exclude the disjunct $S_3\vdash_{i'}\phi$, leaving us only with the options $S_3\vdash_{i'}\psi$ and $S_3\vdash_{i'}\chi$. While this seems like a suitable approach, this comes with a problem, namely that we would have to buy that (53) is also a case of metalinguistic negation, which Bosque (1990) clearly excluded. This is also related to the problematic aspect that, unlike in (42), the focus is not laid on the whole sentence in (53) but only on the CC. Treating (53) formally in the same way as (42) would raise questions for the overall motivation of such an analysis. Denegation would be another candidate where the speaker would simply prevent an update with $S_1\vdash_i S_3\vdash_{i'}\phi$. However, it would fail to express the intended meaning, as $\cdot S_1\vdash_i S_3\vdash_{i'}\phi$ would express that S_1 refuses to assert that Juan is committed to ϕ. Neither would it make much sense to report that Juan performed a denegation of the form 'I don't say that the mayor is responsible'.

Thus, as things are standing, the proposed analysis aimed to closely capture the overall situation in the discourse after an utterance of (53) which would get us the desired results, namely that (i) the speaker is committed to 'Juan said something' which is here modelled as a multiple root in a *CS* where the speaker will be committed to one of the alternatives which reflects the presupposition of the set of contextually relevant alternatives of what Juan said, namely ψ, or χ. (ii) The corrective focus on the subjunctive CC in (53) is modelled as a retraction by S_1, a removal of the commitment to $S_3\vdash_{i'}\phi$ which we interpret as the speaker not considering this option available anymore. The overall meaning of 'Juan said something, but not ϕ' is then captured by the *CS* in (59). A follow-up as in (60) would then finally settle what Juan actually said among those things he might have said, namely that the mayor's assistant was responsible, as reflected in the *CS* in (61). As far as (53) is concerned, this seems to be the best attempt to capture it. For

now, we will have to leave the final analysis of (53) open for future discussions.

Let us take stock. We have seen that mood alternation under *no decir* leads to distinct developments in *CS*s. In the case of subjunctive CCs, focus is restricted to the CC itself. This focus typically has a corrective character: the matrix subject did say and commit to something, but the actual content they committed to is different from that expressed in the subjunctive CC. This interpretation is not available for the indicative counterpart. There, focus falls on the entire sentence, where we the assumed polarity focus, triggers a trivial presupposition – either 'it is the case that the matrix subject is committed to ϕ' or not. The latter disjunct is the intended expression of a metalinguistic negation, following observations in Bosque (1990). That is, by asserting a sentence with sentence-wide focus, the speaker commits to 'it is not the case that the matrix subject committed to ϕ'. We also examined the case where focus is placed on the constituent *ayer* ('yesterday'). This yielded the interpretation that the matrix subject did commit to ϕ, but at a time prior to yesterday. Crucially, what we have demonstrated is that the intricacies of mood alternation in the context of *no decir* are substantial and call for deeper investigation and systematic analysis. Within our *CS*-based framework, we have already aimed to visualize some of these differences, thereby highlighting how both mood choice and focus structure influence discourse interpretation, and how the two interact in meaningful ways.

4.1.2   Case example 2: 'Believe'

We now turn to mood alternation with Catalan *creure* ('to believe') under negation. We draw on Quer's (1998) example (30) from Chapter 3, repeated here for convenience as (62) and (63).

(62)   El degà no creu   [que els estudiants es
        the dean not believe.3P.SG.IND that the students   REFL
        mereixin   un premi].
        deserve.3P.PL.SBJV a   prize
        'The dean does not believe that the students deserve a prize.'
        (*Catalan*, Quer, 1998)

(63)   El degà no creu   [que els estudiants es
        the dean not believe.3P.SG.IND that the students   REFL
        mereixen   un premi].
        deserve.3P.PL.IND a   prize
        'The dean does not believe that the students deserve a prize.'
        (*Catalan*, Quer, 1998)

Let us being with (63). In §3.1.1 in Chapter 4 and previous chapters, we said
that the propositional content of the CC of *creure* is a speaker presupposi-
tion. Since that presupposition projects outside of the embedded clause, we
do not have a shift in *origo* such that the speaker presupposition is mapped
to the person uttering (63). We confirmed this with application of the FOS$^+$-
test as well as follow-up sentences that would commit S_1 to the contradiction
of the propositional content of the CC ϕ with $\neg\phi$, leading to overall incon-
sistent speaker commitments. This leads us to the overall conclusion that
given the presupposition in (63), it holds that the speaker S_1 is committed
to ϕ. What is more, S_1 undertakes another commitment in their utterance
of (63). As S_1 asserts the whole sentence (63), namely that the dean does
not believe that the students deserve a prize, the speaker becomes therefore
committed to (63) as well. In other words, S_1 vouches for the truth of $B_d\neg\phi$,
the dean's (d) disbelief of ϕ.

    Putting these two things together, S_1's commitment to ϕ as well as to
$B_d\neg\phi$, we get that S_1 wants to update the commitment space with $B_d\neg\phi$ *via*
assertion, while also adding $S_1 \vdash \phi$ *via* presupposition accommodation. As we
suggested a preliminary assumption to treat accommodation as a dynamic
update where S_1 updates the *CS* with their commitment to ϕ, we suggest that
the overall analysis of (64) in a *CS* looks as follows.
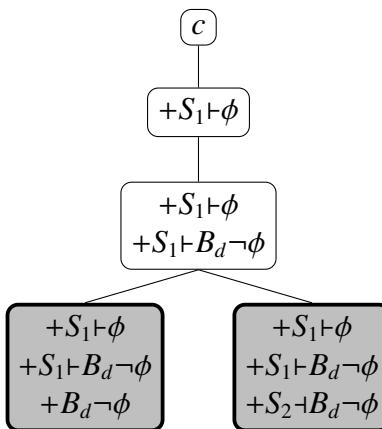
(64) $\cdot S_1 \vdash \phi \, ; \, [\cdot S_1 \vdash B_d\neg\phi \, ; \, [\cdot B_d\neg\phi \, \vee \, \cdot S_2 \dashv B_d\neg\phi]]$
        $= \{c + S_1 \vdash \psi + S_1 \vdash B_d\neg\phi, c + S_1 \vdash \phi + S_1 \vdash \phi + S_2 \dashv B_d\neg\phi\}$

(64) expresses an update with $S_1 \vdash \phi$, the commitment to the CC of (63), and
the commitment to the proposition that the dean does not believe ϕ, $B_d\neg\phi$,
followed by the choice for the addressee S_2 to agree or disagree with $B_d\neg\phi$.
Here, the formalization suggests that it is only the latter proposition for the
addressee S_2 to decide whether it gets accepted or not, as we have argued
that accommodation is merely a quiet update with the presupposed content,
i.e. S_1's commitment to ϕ. The updated *CS* after S_1's assertion of (63) would

then be of the following form in (65) with its corresponding visualization as a *CS* in (66).

(65) $C_1 = C_0 + \cdot S_1 \vdash \phi + \cdot S_1 \vdash B_d \neg \phi \, ; \, [\cdot B_d \neg \phi \lor \cdot S_2 \dashv B_d \neg \phi]$

(66)   Visualization of (65)

Based on S_1's assertion, which resulted in the *CS* in (65), S_1 is now committed to ϕ and to $B_d \neg \phi$. This would mean that since both propositions are in the updated *CS* C_1, S_1 may not commit to the opposite of what S_1 has already committed to. Let us write down the root of the updated *CS* C_1 in (67), the updated *CS* after S_1's assertion of (65).

(67) $\sqrt{C_1} = c_1 = \{c + S_1 \vdash \phi + S_1 \vdash B_d \neg \phi\}$

The following moves in (68-a) through (68-c) are illicit moves by S_1 after S_1's assertion of (63) as they are incompatible with the members of the new root of C_1 (67) due to consistency constraints.

(68)   *Context: S_1 asserted (63)*

      a. #I   és   que el degà creu   que es
          and be.3P.SG.IND that the dean believe.3P.SG.IND that REFL
          mereixen   un premi.
          deserve.3P.PL.IND a   prize
          'And the dean believes that they deserve a prize.'
          = $\cdot S_1 \vdash B_d \phi$

      b. #I   és   que no es   mereixen   un premi.
          and be.3P.SG.IND that not REFL deserve.3P.SG.IND a   prize

'And they don't deserve a prize.'
= $\cdot S_1 \vdash \neg \phi$

c. #I   jo   tampoc no ho   crec.
    and 1P.SG.NOM neither not 3P.SG.NEUT.ACC believe.1P.SG.IND
    'And I don't believe it either.'
    = $\cdot S_1 \vdash B_{S_1} \neg \phi$

(*Catalan*)

(68-a)-(68-c) violate a consistency constraint. For instance, (68-a) and (68-b) violate a claim consistency, and (68-c) violates the belief/claim consistency.

Let us now turn to S_2's reactions where we are mostly interested in whether their reactions are consistent with the accommodated content. Normally, S_2 would react to S_1's update proposal such that S_2 either agrees or disagrees with the overall sentence in (63). However, S_2 could also react to S_1's accommodated content. The accommodated content, namely S_1's commitment to ϕ, as we have suggested before, can be challenged equally with (69-a) and (69-b).

(69)   *Context: S_1 asserted* (63)

a. Ep! Un moment! No sabia   que es
    INJ a   moment not know.1P.SG.IND.IMPF that REFL
    mereixin   un premi.
    deserve.3P.PL.SBJV a   prize
    'Hey, wait a minute! I didn't know that they deserve a prize.'

b. Ep! Un moment! No es   mereixen   un premi.
    INJ a   moment not REFL deserve.3P.PL.IND a   prize.
    'Hey wait a minute, they do not deserve a prize.'

(*Catalan*)

Both of S_2's follow-ups are fine as they do not violate any consistency constraint such that both additions to C_1 get us either (70-a) or (70-b). For the sake of simplicity, we will render 'didn't know' as $\neg K$.
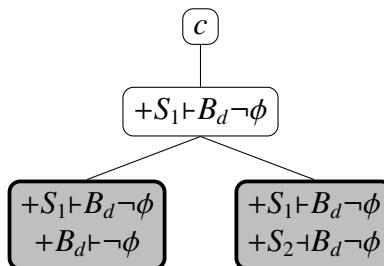
(70)   a. Continuation with (69-a): $C_2 = C_1 + \cdot S_2 \vdash \neg K_{S_2} \phi$
        b. Continuation with (69-b): $C_2 = C_1 + \cdot \neg S_2 \vdash \phi$

Thus, reactions such as 'Hey wait a minute!' as in (69-a) and (69-b) are licit movements for S_2 after S_1's assertion of (63).

Cases of subjunctive CCs under *no creure* as in (62) are simpler in their formalization compared to their indicative cousins. A speaker asserting (62) merely commits to the proposition $B_d\neg\phi$. The subjunctive complement is not presupposed (Quer, 1998, 60), and the subjunctive itself does not signal a commitment that could, for instance, be mapped to the speaker. Thus, S_2's assertion of (62) results in the following form:

(71) a. $\cdot S_1 \vdash B_d\neg\phi\,;\,[\cdot B_d\neg\phi \,\vee\, \cdot S_2 \dashv B_d\neg\phi]$
      b. $(71\text{-}a) = \{c + S_1 \vdash B_d\neg\phi + B_d\neg\phi, c + S_1 \vdash B_d\neg\phi + S_2 \dashv B_d\neg\phi\}$
      c. $C_1 = C_0 + \cdot S_1 \vdash B_d\neg\phi\,;\,[\cdot B_d\neg\phi \,\vee\, \cdot S_2 \dashv B_d\neg\phi]$

(72) Visualization of (71-c)

Note that the follow-ups (73-b)-(73-c) are acceptable, while (73-a) still remains infelicitous due to the violation of a claim consistency constraint.

(73) *Context: S_1 asserted (62)*

      a. #I   és   que el degà creu   que es
          and be.3P.SG.IND that the dean believe.3P.SG.IND that REFL
          mereixen   un premi.
          deserve.3P.PL.IND a   prize
          'And the dean believes that they deserve a prize.'
          $= \cdot S_1 \vdash B_d\phi$
      b. I és que no es mereixen un premi.
          and be.3P.SG.IND that not REFL deserve.3P.SG.IND a prize
          'And they don't deserve a prize.'
          $= \cdot S_1 \vdash \neg\phi$
      c. I   jo   tampoc no ho   crec.
          and 1P.SG.NOM neither not 3P.SG.NEUT.ACC believe.1P.SG.IND

'And I don't believe it either.'
$$= \cdot S_1 \vdash B_{S_1} \neg \phi$$
(*Catalan*)

In Chapter 3, §3.1.3, we also briefly looked at cases of quotative evidentials that map the indicative to a third party such that it shifts the *origo* of the person that is committed to ϕ. We repeat the Catalan example here again as (74).

(74)   El degà no creu   que els estudiants es   mereixen
        the dean not believe that the students   REFL deserve.3P.PL.IND
        el   premi, tal com sí   creuen /   diuen   ells.
        the prize, so how yes believe.3P.PL.IND say.3P.PL.IND 3P.SG.NOM
        'The dean doesn't believe that the students deserve a prize, as they
        do believe/ say.'
        (*Catalan*)

Here, the committer is clearly identified as *the students* which in turn means that the speaker is no longer committed to ϕ. This becomes evident if the speaker commits to $\neg\phi$ (75-a) or $B_{S_1}\neg\phi$ (75-b), resulting in overall felicitous statements.
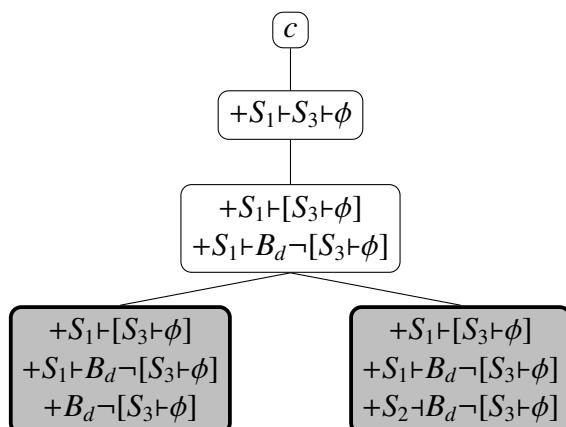
(75)   El degà no creu   que els estudiants es   mereixen
        the dean not believe that the students   REFL deserve.3P.PL.IND
        el   premi, tal com sí   creuen /   diuen   ells
        the prize, so how yes believe.3P.PL.IND say.3P.PL.IND 3P.SG.NOM
        'The dean doesn't believe that the students deserve the prize, as they
        believe/ say,'
    a. i   és   que ells   no se'l
        and be.3P.SG.IND that 3P.PL.NOM not REFL-3P.SG.M.ACC
        mereixen.
        deserve.3P.PL.IND
        'but they don't deserve a prize.'
        $$= \cdot S_1 \vdash \neg\phi$$
    b. i   jo   tampoc no ho   crec.
        and 1P.SG.NOM neither no 3P.SG.NEUT.ACC believe.1P.SG.IND

'and I don't believe it either.'

$= \cdot S_1 \vdash B_{S_1} \neg \phi$

(*Catalan*)

The interpretation of (74) would be insofar different from (62) in that the accommodated content of (74) would be that a third party (S_3), namely the students, are committed to ϕ, such that we would write $\cdot S_1 \vdash [S_3 \vdash \phi]$ to express that S_1 accommodates the presupposition, i.e. the commitment to $\phi = [\![$according to the students, they deserve a prize$]\!]$. This analysis would be a simpler version in the analysis in Krifka (2023), where evidentials are basically the shift of a commitment to a third party that the speaker commits to in order to avoid responsibility in case ϕ turns out to be false. In addition, S_1 asserts and thus proposes an update with the proposition that the dean does not believe that the students deserve a prize (according to the students), which is rendered again as $\cdot S_1 \vdash B_d \neg [S_3 \vdash \phi]$. All in all, then, the difference between (74) and (63) is that we shifted the *origo* of the proposition ϕ from S_1 to the students (S_3, as the rendition in (76-a) and its corresponding diagram (76-c) shows.

(76)   a. $\cdot S_1 \vdash S_3 \vdash \phi \,;\, \cdot S_1 \vdash B_d \neg [S_3 \vdash \phi]\,;\, [\, \cdot B_d \neg [S_3 \vdash \psi] \;\vee\; \cdot S_2 \dashv B_d \neg [S_3 \vdash \psi]]$

    b.   (76-a) $= \{c + S_1 \vdash [S_3 \vdash \phi] + S_1 \vdash B_d \neg [S_3 \vdash \phi] + B_d \neg [S_3 \vdash \phi], c + S_1 \vdash [S_3 \vdash \phi] + S_1 \vdash B_d \neg [S_3 \vdash \phi] + S_2 \dashv B_d \neg [S_3 \vdash \phi]\}$

    c. $C_1 = C_0 + \cdot S_1 \vdash [S_3 \vdash \phi] + \cdot S_1 \vdash B_d \neg [S_3 \vdash \phi]\,;\, [\, \cdot B_d \neg [S_3 \vdash \psi] \;\vee\; \cdot S_2 \dashv B_d \neg [S_3 \vdash \psi]]$

(77)   Visualization of (76-c)

As one can see in (76-a) and its visualisation in (76-c), for instance, only the students are committed to ϕ such that the CS allows for legal movements for S_1, such as $S_1 \vdash \neg\phi$ or $B_{S_1}\neg\phi$, as they do not violate any consistency constraint. Thus, the suggested analysis predicts our previous observations. By uttering (75), the speaker is not committed to ϕ. We have seen that the follow-ups are licit and that the FOS$^+$-test confirmed the assumption that not ϕ is presupposed and thus commits the speaker to ϕ, but that the speaker is committed to the third party being committed to ϕ, i.e. $S_1 \vdash [S_3 \vdash \phi]$.

Following Quer's insight for *no creure*, we argued that when the CC appears in the indicative, its propositional content ϕ is presupposed and thus committed to by the speaker. Since presuppositions project beyond the CC in the case of 'believe' (see Chapter 4 for a general discussion), the speaker is taken to be committed to ϕ. In the CS, this is modeled as an update where $S_1 \vdash \phi$ becomes part of the root of the updated CS, C_1. By virtue of the claim consistency, the speaker may not subsequently commit to $\neg\phi$ without contradiction. At the same time, the speaker asserts with the matrix clause that the matrix subject – in our cases such as (62) the dean (d) – does not believe ϕ, adding $S_1 \vdash B_d \neg\phi$ to the CS. In contrast, when the subjunctive is used in the CC, no speaker commitment to ϕ is established. The speaker only asserts the matrix subject's disbelief, without presupposing or endorsing the embedded proposition. Thus, in the CS, the only update is the speaker's commitment to the matrix subject's lack of belief in ϕ. As a final case, we examined an example involving quotative evidential strategies, where the presupposition is that the speaker is committed to a third party's commitment to the content of the CC, formalized as $S_1 \vdash [S_3 \vdash \phi]$. This pattern mirrors the indicative case in that a commitment enters the CS, but crucially, it is not the speaker's own commitment to ϕ. Rather, the speaker attributes the commitment to a third party. As a result, the speaker remains free to commit to $\neg\phi$ without creating inconsistency in the CS, since S_1 is not him-/hrself committed to ϕ.

4.2   Case examples for RSVs

4.2.1   Preliminaries

Let us now move to RSVs. As done before, we will separate them into positive and negative RSVs. In §3.2.3 in Chapter 4, we argued that RSVs, especially in the case with subjunctive, require it as given that the discourse in

which RSVs are used are such that someone proposed or brought up ϕ. In the context of RSVs, we will therefore take it as given – even for the hypothetical cases, as the latter was suggested by Cattell (1978) – that there is an update proposal with ϕ. A sentence with an RSV, then, signals that the matrix subject reacted to that proposal. With the subjunctive, this reaction can have the character of weak affirmation or acquiescence (Klein, 1990; Laca, 2010). With the indicative, this reaction would be an answer. Thus, in scenarios of RSVs, we will assume that one always reacts to an update proposal. The key idea for modeling the case of RSVs is that ϕ is already on the conversational table, setting the stage for a response stance. This presupposed situation reflects the reactive nature of RSVs, which typically verbalize the speaker's final move in relation to that prior update. Accordingly, we will assume throughout that RSVs operate on an update proposal with ϕ , and the RSV expresses a speaker's stance toward that proposal. We therefore assume that we always depart from (78) which would be, implicitly or explicitly, preceding a sentence containing a RSV.

(78)   someone (S_3) proposed to update C_0 with ϕ:
$C_0 + [\cdot S_3 \vdash \phi ; [\cdot \phi \vee \cdot S_1 \dashv \phi]] = \{c + S_3 \vdash \phi + \phi, c + S_3 \vdash \phi + S_1 \dashv \phi\} = C_1$

As discussed before, reactions to (78) that are compatible with the disjunct $\cdot \phi$ – the update with ϕ – in (78) may come in the shape of a commitment to ϕ or non-objection to ϕ. Regarding the latter, we want to briefly introduce the speech act GRANT, a meta-speech act first introduced in Cohen & Krifka (2011, 2014) that, in contrast to a denegation in (79-a) of the form $\sim \cdot S_1 \vdash \phi$, does not prevent an update with ϕ but rather prevents an update with $\neg \phi$ (79-b).

(79)   a.   GRANT $= \sim \cdot S \vdash \neg \phi$
        b.   DENEGATION $= \sim \cdot S \vdash \phi$

In the end, we then have two different kinds of meta-speech acts at our disposal, one that prevents an update with ϕ (79-a), and another one that prevents the update with $\neg \phi$ (79-b). The latter, in particular, will be of further relevance to our analysis.

4.2.2   Case example 3: positive RSVs

Let us assume the scenario (80), which we repeat from §3.2.1 in Chapter 4.

(80)   *Context: You have a discussion with your friend Joan on global warm-*
        ing and how to take individual measures to reduce your carbon foot-
        print. The topic of eating meat has been been brought up and you
        say:

        a.   Admeto   que la   carn contamini.
             admit.1P.SG.IND that the meat contaminate.3P.SG.SBJV
             'I admit that eating meat is polluting the environment.'
        (*Catalan*)

The context in (80) makes it explicit that what has been proposed as an up-
date is the proposition $\phi = $ ⟦meat is polluting the environment⟧. Recall
that *admetre* with a subjunctive CC is only infelicitous if the propositional
content of the CC has not been brought up in the previous discourse.
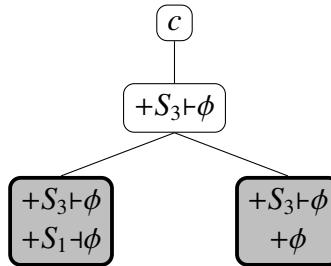
(81)   *Context: You have a discussion with your friend Joan on global warm-*
        ing and how to take individual measures to reduce your carbon foot-
        *print. The topic of eating meat has **not** been been brought up and you*
        say:

        a.   #Admeto   que la   carn contamini.
             admit.1P.SG.IND that the meat contaminate.3P.SG.SBJV
             'I admit that eating meat is polluting the environment.'
        (*Catalan*)

Applied to the *CS*-model, the proposed update in the context in (80) can be
rendered using Krifka's (2022) idea for update proposals through assertions
(82-b). (82-b) will be our point of departure from whcih we will examine all
cases of RSVs as they require a scenario where ϕ must have been brought up
in one way or another (Cattell, 1978). Let us here render Joan as S_3 and the
speaker as S_1.

(82)   Joan (S_3) proposed an update with ϕ at C_0:
        a. $C_0 + [\cdot S_3 \vdash \phi; [\cdot \phi \vee \cdot S_1 \dashv \phi]]$
        b.   (92-c) = $\{c + S_3 \vdash \phi + \phi, c + S_3 \vdash \phi + S_1 \dashv \phi\}$
        c. $C_1 = C_0 + [\cdot S_3 \vdash \phi; [\cdot \phi \vee \cdot S_1 \dashv \phi]]$

We repeat the visualization of the update proposal here, which involves multiple roots, allowing the speaker S_1 to react in a way that is either compatible with a commitment $S_2 \vdash \neg\phi$ or a commitment to $S_1 \vdash \phi$, or something weaker, such as a denegation.

(83)   Visual rendition of (82-c)/(82-b)
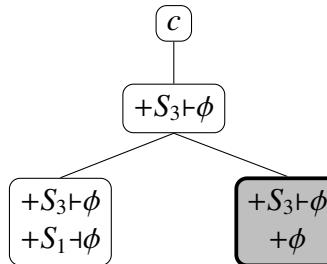
Recall that the subjunctive in the CC of the RSV in (81-a) does not signal a commitment on the speaker S_1's part. However, S_1's utterance of (81-a) is a reaction nonetheless. Trivially, a speaker using *admetre* does not express disagreement either. So if it is neither a commitment to ϕ nor a commitment to $\neg\phi$, how are we to interpret S_1's utterance of (81-a)? Following observations made in Klein (1990), Quer (2009), and Laca (2010), there appears to be a subtle difference between indicative and subjunctive in CCs of RSVs. All of them remark that one mood conveys something different from the other. Klein (1990), for instance, identifies a contrast in mood choice, with the indicative reflecting affirmation and the subjunctive signaling weak affirmation. Quer (2009, 1782) argues for his observations on French *admettre* that with the subjunctive, "the proposition under discussion can be incorporated to the common ground", while the indicative "simply asserts". Laca (2010) speaks of the subjunctive conveying acquiescence or agreement. Considering descriptions of subjunctive CCs of RSVs, such as (weak) agreement, acquiescence, or simple incorporation into the *CG*, this would give us reasons to believe that the subjunctive in such cases behaves just like non-objections such as *okay*, as Krifka (2022) suggests. In his analysis, Krifka renders *okay* uttered by a speaker S_1 as $\sim S_1 \vdash \neg\phi$ to signal non-objection to ϕ. Non-objection can be understood in such a way that the speaker permits an update with ϕ without committing to ϕ. *Okay* thus expresses that the speaker leaves it open whether $S_1 \vdash \phi$ holds while at the same time, giving ϕ a pass. Especially in the context of (82-b), where S_1 is now the one to decide

whether ϕ should be accepted or not, leaving it open whether $S_1 \vdash \phi$ holds, may only be compatible with the first conjunct, ϕ, as leaving it open whether $S_1 \vdash \phi$ holds while expressing doubts about ϕ ($S_1 \dashv \phi$) is not compatible due to the consistency constraint between doubt and proposition (17).

These considerations then give us reasons to assume we should move in a similar direction for cases with *admetre* carrying a CC with a subjunctive. That is, the move that the speaker, S_1, in (81-a) amounts essentially to an preventing an update with $\neg \phi$, which corresponds to Cohen & Krifka's GRANT. The result of this move is that the update with ϕ happens. This operation captures Quer's informal idea of incorporating the proposition under discussion – the proposition presented in the update proposal – into the CG. The formalization in (84) for (81-a) is identical to Krifka's analysis of *okay*. The visualisation of the CS is given in (85).

(84) $C_1 + \sim\cdot S_1 \vdash \neg \phi = C_0 + S_3 \vdash \phi + \phi$

(85)   Update with of C_1 after S_1 reacts with $\sim\cdot S_1 \vdash \neg \phi$

The updated CS resulting from S_1's reaction with an RSV containing a subjunctive yields a CS C_1 with the root $\sqrt{C_1}$ which includes both S_3's commitment to ϕ and ϕ. In both cases, commitments to $\neg \phi$ are ruled out due to consistency constraints.

Moving on to the indicative, we will analyze the following example with the same context as in (81-a).
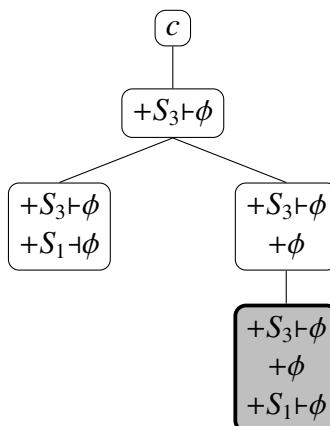
(86)   *Context: You have a discussion with your friend Joan on global warming and how to take individual measures to reduce your carbon footprint. The topic of eating meat has been been brought up and you say:*

    a.   Admeto   que la carn contamina.
          admit.1P.SG.IND that the meat contaminate.3P.SG.IND

'I admit that eating meat is polluting the environment.'
(*Catalan*)

By contrast, updates with indicative CCs under *admetre* proceed straight-forwardly. Following Quer (2009), (86-a) should then be interpreted as an assertion which would cause a commitment to ϕ of the form $S_1 \vdash \phi$; this is also signalled in parallel by the presence of the indicative. Accordingly, S_1's reaction to (82-b) is that of an update with $S_1 \vdash \phi$ that is compatible with the disjunct ϕ in (82-b), resulting in the following CS.

(87) S_1's reaction with $\cdot S_1 \vdash \phi$

S_1's update with $S_1 \vdash \phi$ would then result in a new CS C_2 which is the result of an update of C_1 with $\cdot S_1 \vdash \phi$. The overall interpretation of (87) would then correspond with the following formalization:

(88) $C_2 = C_1 + \cdot S_1 \vdash \phi = C_0 + \cdot S_3 \vdash \phi + \cdot \phi + S_1 \vdash \phi$

Thus, the subtle difference between (81-a) and (86-a), as reflected here in the CS framework, is that unlike (81-a), (86-a) displays S_1's commitment to ϕ. Importantly, the incorporation of ϕ through GRANT as well as the update with $S_1 \vdash \phi$ will prevent S_1 from committing to $\neg \phi$. This is correctly predicted by the infelicity in (89).

(89)   Admeto   [que la   carn contamini /
          admit.1P.SG.IND   that the meat pollute.3P.SG.SBJV
          contamina],   #i   és   que no contamina.
          pollute.3P.SG.IND   and be.3P.SG.IND that not pollute.3P.SG.IND

'I admit that meat pollutes the environment, but it doesn't pollute the environment.'
(*Catalan*)

A follow-up with a commitment to $\neg\phi$ after using *admetre* with a subjunctive results in the violation of a claim/proposition consistency (15), whereas in the case of indicative, we are confronted with a violation of a claim consistency (14).

To summarize our analysis, we have shown that mood variation under positive RSVs in performative uses yields distinct interpretive outcomes for discourse progression within the Commitment Space (CS) in the context of RSVs. We first argued that the content of the CC must be discourse-given, which is why we modeled this particular situation as an update proposal with ϕ, following Krifka (2022). From this point, the speaker S_1 may either continue with $S_1 \dashv \phi$ (expressing doubt about ϕ) or accept the update, allowing only ϕ to be added. On the one hand, an RSV such as *admetre*, when taking a subjunctive CC, functions as a GRANT, formalized as $\sim \cdot S_1 \vdash \neg\phi$, thus preventing an update with $\neg\phi$ and aligning only with the disjunct $\cdot\phi$. On the other hand, when *admetre* takes an indicative CC, we argued that it functions as an assertion, resulting in a commitment to ϕ ($S_1 \vdash \phi$). This also aligns with $\cdot\phi$, but additionally updates the CS with a speaker commitment of the form $\cdot S_1 \vdash \phi$.

4.2.3   Case example 4: negative RSVs

We now examine first-person cases of *negar* as an explicit performative, as seen in (90-a) or (91-a) (examples (85) and (86) in §3.2.3 in Chapter 4). Recall that the subjunctive is only acceptable when the topic of the CC is given, which is why (90-a) in context (90) is felicitous, but (91-a) in context (91) is not.

(90)   *Context: You have a discussion with your friend Joan on global warming and how to take individual measures to reduce your carbon footprint. The topic of eating meat has **not** been brought up throughout the conversation and you say:*

    a.   #Nego   que la carn contamini.
         deny.1P.SG.IND that the meat contaminate.3P.SG.SBJV
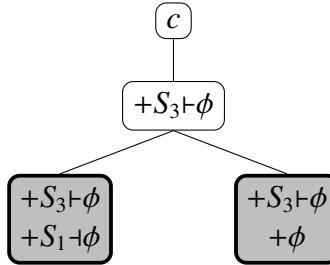
'I deny that eating meat is polluting the environment.'
(*Catalan*)

(91)   *Context: You have a discussion with your friend Joan on global warm-*
        ing and how to take individual measures to reduce your carbon foot-
        print. The topic of eating meat has been been brought up and you
        say:

        a.   Nego   que la   carn contamini.
              deny.1P.SG.IND that the meat contaminate.3P.SG.SBJV
              'I deny that eating meat is polluting the environment.'
        (*Catalan*)

As the infelicity of (90-a) results from a context where ϕ is not brought up
and thus given, we will assume that givenness is a requirement for uttering
(90-a) such that we will assume the same point of departure as we did for
admetre in (80) or (86), namely that the speaker (S_1) in (91-a) finds them-
selves again in the situation where ϕ was put on the table and S_1 either reacts
with a positive or a negative response to said proposal. Thus, the situation
in (91) is formally rendered again just like in (92-c), where someone, in this
case Joan made an update proposal with ϕ. But note that this is merely one
possibility among others. For instance, the givenness of ϕ could have been
established in a different way, without Joan asserting or committing to it —
as illustrated in some examples in Chapter 5. In our cases here, however, we
will stipulate that someone proposed an update with ϕ. Its corresponding
diagram is found in (93).

(92)   Joan (S_3) proposed an update with ϕ at C_0:
        a. $\cdot S_3 \vdash \phi\,;\, [\cdot \phi \vee \cdot S_1 \dashv \phi]$
        b.   (92-c) $= \{c + S_3 \vdash \phi + \phi, c + S_3 \vdash \phi + S_1 \dashv \phi\}$
        c. $C_1 = C_0 + \cdot S_3 \vdash \phi\,;\, [\cdot \phi \vee \cdot S_1 \dashv \phi]$

(93) S_3 updates C_0 with $\cdot S_3 \vdash \phi$; $[\cdot \phi \vee \cdot S_1 \dashv \phi]$

We are now left with the interpretation of *negar* in (91-a). Quer (1998) notes that *negar* should receive an interpretation along the lines of 'not believe (and say)', thus expressing a rejection of propositional content of the CC. This means that (91-a) expresses a speaker's (S) rejection of ϕ which we then interpret as a commitment to $\neg\phi$, rendered as $S \vdash \neg\phi$. This interpretation is insofar plausible as the subjunctive CC of *negar*, ϕ, the content under denial, does not signal a commitment to ϕ. In general, indicative CCs are also disallowed under *negar*, as (94) shows (see also Ridruejo, 1999). While this holds for first-person cases, second and third person allow the indicative with the interpretation of a different *origo* such as the speaker or a third party. In (95-a) and (95-b), the *origo* is not the matrix subject.

(94)   #Nego que la carn contamina.
         deny that the meat contaminate.3P.SG.IND
         ~'I deny that eating meat is polluting the environment.'
         (*Catalan*)
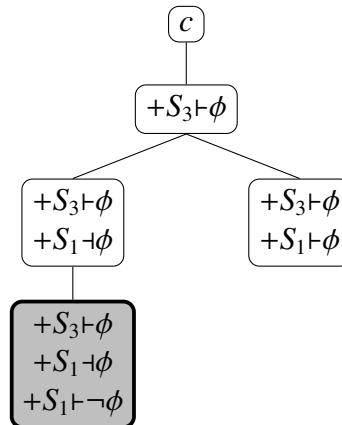
(95)   a.   Ara en Joan nega   que la carn
               now the Joan deny.3P.SG.IND that the meat
               contamina.
               contaminate.3P.SG.IND
               'Joan now denies that meat is polluting the environment.'
         b.   Ara negues   que la carn contamina?
               now deny2P.SG.IND that the meat contaminate.3P.SG.IND
               'Do you now deny that meat is polluting the environment?'
         (*Catalan*)

As the subjunctive in the CC in (91-a) does not express a commitment to ϕ, this makes our interpretation of *negar* in (91-a) as a rejection, following Quer's assumption, a plausible candidate.

As we depart from the same point as in the cases of *admetre*, namely that someone proposed an update with ϕ and that S_1 needs to react accordingly, S_1 then proceeds as follows: In the context of treating *negar* as an RSV, a rejection of ϕ as a reaction to an update proposal with ϕ as in (93) would only be compatible with the disjunct $S_1 \dashv \phi$. S_1's reaction to S_3's proposal would then be that first, S_1 updates the *CS* with the disjunct $S_1 \dashv \phi$, as it is the only disjunct that is compatible with $S_1 \vdash \neg \phi$. Furthermore, by expression a rejection, S_1 also updates the *CS* with $S_1 \vdash \neg \phi$. This is shown formally in (96), and visually in (97).

(96) $C_2 = C_1 + \cdot S_1 \vdash \neg \phi = C_0 + \cdot S_3 \vdash \phi + \cdot S_1 \dashv \phi + \cdot S_1 \vdash \neg \phi$

(97)   Reaction of S_1 with $S_1 \vdash \neg \phi$

The updated *CS* following S_1's reaction with a negative RSV (*negar*) results in a continuation along the node with the *CSt* containing $S_1 \dashv \phi$. Upon rejecting ϕ via *negar*, the speaker further updates the *CS* with $S_1 \vdash \neg \phi$, yielding a new commitment space C_2 whose root is now:

(98) $\sqrt{C_2} = c + S_3 \vdash \phi + S_1 \dashv \phi, ; S_1 \vdash \neg \phi.$

As a final case, we will consider *no negar*. The relevant examples are provided in (99-a) and (99-b), embedded in a context (99) that allows for both the indicative and the subjunctive as felicitous options, an instance already introduced in example (88) in Chapter 4, §3.2.3.

(99)   *In a conversation with fellow experts in the field, Marta, one of Juan's professional colleagues, remarks that he did an excellent job on the exhibition and praises him as a great artist. You respond:*

 a. Bueno, no niego   [que sea   un gran
   well not deny.3P.SG.IND that be.3P.SG.SBJV a great
   artista], pero con esta obra se va   a ganar
   artist but with this work REFL go.3P.SG.IND to win.INF
   muchos enemigos.
   many enemies
   'Well, I'm not denying that he is a great artist, but with this work, he's going to make a lot of enemies.'

 b. Bueno, no niego   [que es   un gran
   well not deny.3P.SG.IND that be.3P.SG.IND a great
   artista], pero con esta obra se va   a ganar
   artist but with this work REFL go.3P.SG.IND to win.INF
   muchos enemigos.
   many enemies
   'Well, I'm not denying that he is a great artist, but with this work, he's going to make a lot of enemies.'

 (*Spanish*)

We may assume that the case of *no negar* constitutes the speaker's denegation of a rejection.

(100) $\sim\cdot S \vdash \neg\phi$

(100) expresses that S prevents an update with $S \vdash \neg\phi$, using the same notation as a GRANT, as seen with *admetre* or 'okay,' both of which signal non-objection and are compatible with the disjunct ϕ in the context of an update proposal with ϕ.

 It is crucial to note that denegation does not follow the same logical principles as propositional negation. That is, denegating a rejection is not equivalent to making an assertion, as Cohen & Krifka (2014, 84) aptly put it: "[R]efraining from denying something is not tantamount to asserting." Searle & Vanderveken (1985, 154) make a similar point in their discussion of what they call double denegation of a speech act, a denegation of a denegation of a speech act that does not constitute the performance of that speech act. This phenomenon resembles intuitionistic logic, where neither the law

of the excluded middle ($\phi \vee \neg\phi$) nor double negation ($\neg\neg\phi \Rightarrow \phi$) are generally valid. Such parallels support the idea that double denegation merely removes resistance to ϕ; it does not amount to an assertion, nor does it entail speaker commitment to ϕ. We therefore observe in the case of *no negar* that it does not constitute an assertion and thus does not result in a commitment to ϕ. We thus write down our observations as follows:

(101) $\sim\!\cdot S \vdash \neg\phi \neq \cdot S \vdash \phi$

Note also that GRANTs illustrate the same principle: they do not yield an assertion of $\neg\phi$ in the context of double denegation. We can thus represent this formally in (102).

(102) $\sim\!\sim\!\cdot S \vdash \neg\phi \neq \cdot S \vdash \neg\phi$

The observations above raise interesting questions about denegations (101) and double denegations (102), particularly concerning the role of RSVs in shaping the *CS*, as is the case in the contrastive pair of *aceptar* ('accept') and *negar*. One might then ask whether a negated RSV such as *no aceptar* – ('not accept') corresponds fully with *negar*, that is, if one does not accept, one refuses/denies. The intuition, supported by the notation, is that *no aceptar que* ϕ is pragmatically weaker than *negar que* ϕ, while *aceptar que* ϕ aligns more closely with *no negar que* ϕ. Another interesting case in this context is that of a Glomar response. A Glomar response, a term from US law, refers to an evasive reply such as 'neither confirm nor deny' (NCND), which avoids liability while still addressing a question. A prototypical Glomar response is found in the CIA's first Twitter post, shown in (103).

(103)   We neither confirm nor deny that this is our first tweet.

A Glomar response would then amount to the following logical form of two coordinated denegations.

(104)   Possible interpretation of a *Glomar response*
    $\sim\!\cdot S_1 \vdash \phi$ & $\sim\!\cdot S_1 \vdash \neg\phi$

(104) would update the *CS* and then express that both $S_1 \vdash \phi$ as well as $S_1 \vdash \neg\phi$ are left open, thereby postponing commitment to either of the two propositions. This captures the evasive nature of Glomar responses, where a speaker
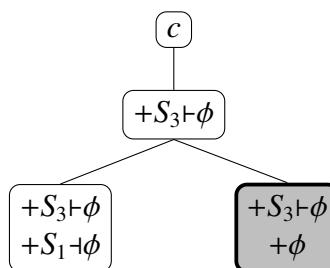
refrains from committing to either proposition (ϕ or $\neg\phi$). However, we must leave a detailed exploration of these cases for future research.

We now consider the case of *no negar* with subjunctive CCs, as illustrated in (105), again assuming the context provided in (99), which involves an update proposal with ϕ The speaker's reply to this proposal is given in (105):

(105)   Bueno, no niego   [que sea   un gran artista],
        well   not deny.3P.SG.IND that be.3P.SG.SBJV a great artist
        pero con esta obra se   va   a ganar   muchos
        but   with this work REFL go.3P.SG.IND to win.INF many
        enemigos.
        enemies
        'Well, I'm not denying that he is a great artist, but with this work,
        he's going to make a lot of enemies.'
        (*Spanish*)

As we have argued before, we interpret *no negar* as a speaker's denegation of the form $\sim\cdot S\vdash\neg\phi$, and its overall effect appears to be the prevention of an update with $S\vdash\neg\phi$. In a situation where S_3 proposes to update the *CS* with ϕ and S_1 uses a denegation of the form $\sim\cdot S_1\vdash\neg\phi$, the overall outcome is a GRANT, i.e., a non-objection to ϕ. This is similar to *vale* ('okay') or *admetre* ('to admit'), both compatible with the disjunct ϕ from a previous update proposal. We illustrate this in (106).

(106) S_1's prevention of an update of C_1 with *no negar*: $\sim\cdot S_1\vdash\neg\phi$

This example suggests the following: Since the speaker's reaction in (105) is a denegation of the form $\sim\cdot S_1\vdash\neg\phi$, it is compatible only with the disjunct ϕ, which is thereby added to the *CS*. However, the speaker does not commit to ϕ, as observed also in other non-objections such as *admetre* with a

subjunctive CC. This, then, explains why the follow-up, an assertion that triggers a commitment of the form $S_1 \vdash \neg\phi$, is infelicitous because it violates consistency between propositions/claims, given that ϕ is already present in the newly established *CSt* after (105). This is confirmed by the example in (107), which suggests that *no negar* functions as a speaker concession, resulting in ϕ being accepted in the background.

(107)   No niego que sea   un gran artista, vale, #pero
        not deny that be.3P.SG.SBJV a great artist ok   but
        es   que no lo   es.
        be.3P.SG.IND that not 3P.SG.NEUT.ACC be.3P.SG.IND
        ~'I don't deny that he's a great artist, but he's not.'
        (*Spanish*)

The overall character of the reactions in (105) and (107) is best understood as one of non-objection. In line with Krifka (2022), who analyzes *okay* as a non-objection move, we propose that *no negar* operates similarly.

   The final example we consider involves *no negar* with an embedded indicative. As before, we assume the context in (99), where ϕ is introduced by someone other than the speaker. The reply is given in (108).

(108)   Bueno, no niego   [que es   un gran artista],
        well   not deny.3P.SG.IND that be.3P.SG.IND a   great artist
        pero con esta obra se   va   a ganar   muchos
        but with this work REFL go.3P.SG.IND to win.INF many
        enemigos.
        enemies
        'Well, I'm not denying that he is a great artist, but with this work, he's going to make a lot of enemies.'
        (*Spanish*)

Since the CC is in the indicative, it likely signals a commitment attributed to the speaker, S_1. As we have argued before, *no negar* is a denegation – that is, the speaker is preventing an update with $\neg\phi$ (108). This explains why the indicative is permissible under *no negar*: there is no contradiction *per se* between $\sim S_1 \vdash \neg\phi$ and a presupposed content that signals a commitment of the form $S_1 \vdash \phi$. That is, $\sim S_1 \vdash \neg\phi$ leaves open whether $S_1 \vdash \neg\phi$ holds, allowing $S_1 \vdash \phi$ to coexist with $\sim S_1 \vdash \neg\phi$. Once $S_1 \vdash \phi$ has been established in a *CSt*,

$\sim S_1 \vdash \neg\phi$ cannot leave $S_1 \vdash \neg\phi$ open anymore as a later update with $S_1 \vdash \neg\phi$ with $S_1 \vdash \phi \in c$ results in a violation of claim consistency, as we have seen in the case of (107).

Furthermore, as shown in Chapter 4, §3.2.3, applying the HWAM-test to (108) yields a positive result, suggesting that the content is presupposed (109-b). In contrast, applying the HWAM-test to the subjunctive case (105) rules out the possibility that the content of the CC is presupposed (110-b).
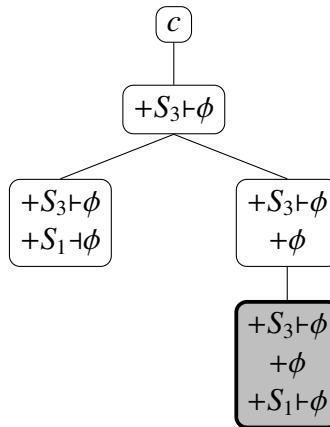
(109)　a.　Bueno, no　niego　　　　　[que es　　　　un gran
　　　　　　well　　not deny.1P.SG.IND that be.3P.SG.IND a　great
　　　　　　artista], pero...
　　　　　　artist　　but
　　　　　　'Well, I'm not denying that he's a great artist, but...'
　　　　b.　¡Eh! ¡Un momento! Yo　　　　no　sabía
　　　　　　INJ　a　　moment　1P.SG.NOM not know.1P.SG.IND.IMPF
　　　　　　que pensaras　　　　　que es　　　　un gran artista.
　　　　　　that think.2P.SG.SBJV.PST that be.3P.SG.IND a　great artist
　　　　　　'Hey, hold on a second! I didn't know that you thought that
　　　　　　he is a great artist.'
　　　　(*Spanish*)

(110)　a.　Bueno, no　niego　　　　　[que sea　　　　un gran
　　　　　　well　　not deny.1P.SG.IND that be.3P.SG.SBJV a　great
　　　　　　artista], pero...
　　　　　　artist　　but
　　　　　　'Well, I'm not denying that he's a great artist, but...'
　　　　b.　#¡Eh! ¡Un momento! Yo　　　　no　sabía
　　　　　　INJ　a　　moment　1P.SG.NOM not know.1P.SG.IND.IMPF
　　　　　　que pensaras　　　　　que es　　　　un gran　artista.
　　　　　　that think.2P.SG.SBJV.PST that be.3P.SG.IND a　great artist
　　　　　　'Hey, hold on a second! I didn't know that you thought that
　　　　　　he is a great artist.'
　　　　(*Spanish*)

We may thus assume the following for (108): As the content is presupposed and the speaker prevents an update with $\neg\phi$, S_1 concedes ϕ to the CS and accommodates $S_1 \vdash \phi$, as suggested by the presupposed content of the CC. Let us then assume that S_1 performs an update by adding $S_1 \vdash \phi$ without inviting

the addressee to agree or disagree with it, capturing the idea of accommodation. This is then followed by the prevention of an update with $S_1 \vdash \neg\phi$ which is compatible with the accommodated content of $S_1 \vdash \phi$. We summarize this formally in (111).

(111) $C_1 + \cdot S_1 \vdash \phi = C_0 + \cdot S_3 \vdash \phi + \cdot \phi + \cdot S_1 \vdash \phi$

(112)   Visualization of (111)

While the order-sensitivity of the dynamic update might raise worries here, $\sim \cdot S_1 \vdash \neg\phi$ is a 'harmless' operation. That is, while S_1 concedes ϕ and accommodates $S_1 \vdash \phi$, the denegation $\sim \cdot S_1 \vdash \neg\phi$ is compatible with the previous updates, causing no inconsistencies whatsoever with the newly established *CSt* c_3 with its root $\sqrt{C_3} = \{S_3 \vdash \phi, \phi, S_1 \vdash \phi\}$. That is, even though $\sim \cdot S_1 \vdash \neg\phi$ expresses that $S_1 \vdash \neg\phi$ is left open, the fact that $S_1 \vdash \phi$ is a member of the root of C_3, a later update with $S_1 \vdash \neg\phi$ would introduce inconsistencies, violating claim consistency.

We can summarize the analysis for performative uses of negative RSVs as follows: First, we postulated that *negar* functions as a rejection, formalized as $S_1 \vdash \neg\phi$, which is incompatible with the disjunct $\cdot \phi$ (i.e., the update with ϕ), but aligns with an update involving $S_1 \dashv \phi$ in response to an update proposal with ϕ. The use of *negar* — which exclusively takes a subjunctive CC — indicates that the speaker not only expresses doubt about ϕ but also commits to $\neg\phi$. In contrast, *no negar* was analyzed as a denegation of a rejection, effectively functioning as a GRANT and signaling non-objection. Crucially, we showed that this denegation does not constitute an assertion,

following the view that refraining from denial is not equivalent to making an assertion. This is especially relevant when *no negar* takes a subjunctive CC, as it does not trigger a commitment but permits the addition of ϕ to the CG, thereby preventing the speaker from committing to $\neg\phi$. In cases where *no negar* takes an indicative CC, we treated the content as presupposed, with the speaker accommodating it within the CS.

5   Summary

We have seen that mood choice has an effect on how CSts are updated, which further suggests that mood alternation is not without consequences. This corresponds well with the findings in the mood literature that emphasize that mood alternation brings different interpretations. Specifically, we have shown that not only do different moods bring about different interpretations, but these interpretive differences also lead to distinct effects on the CG, particularly regarding the consistencies that a speaker must maintain once a certain conversational move has been made. Often, these differences are subtle, as in the case of RSVs, where the update involves either a commitment to ϕ or merely an acknowledgment of ϕ, which still blocks commitment to $\neg\phi$. Though the contrast may seem slight, it becomes salient when considering the coherence of discourse, since continuations that contradict the updated content result in violations of consistency maxims.

In sum, this chapter has offered but a preliminary glimpse into how mood alternation can be formalized within a CS framework. What we have aimed to show is that mood choice plays a crucial role in shaping discourse dynamics by affecting the speaker's commitments and the evolution of CG. These initial observations point to the potential of a more systematic mapping of mood alternation in particular and mood in general within a CS model that will require further enrichment, thereby shedding more light on the kinds of subtleties also involved in the case of tense, which also has a crucial effect on mood distribution.

Chapter 6

Concluding remarks

Contents

1   Contribution of the thesis

At the outset, we stated that one of the purposes of the thesis was to offer a fresh perspective on mood and mood alternation. In Chapter 3, we argued in favor of a normative account of mood, grounded in the concept of commitment, grounded in the tradition of Hamblin (1970) *et seq*. By foregrounding normative commitments rather than cognitive notions such as beliefs as an alternative *explanans* for mood, this thesis proposed a new way to understand mood morphology. We gave reasons for such a shift as we have argued that a cognition-based account, i.e. an account that would assume indicative to signal belief, would suffer from substantial problems, such as the possibility of lying or excessively strong assumptions of speaker sincerity.

One should also consider the relationship between assertion and the indicative mood, which has played a key role in our discussion. Traditionally, assertion has been invoked to explain the distribution of the indicative, which is often treated as the mood of assertion (see Terrell & Hooper, 1974). However, two observations from our findings cast doubt on this association. First, the relation between the indicative and assertion appears overly simplistic. As Giannakidou & Mari (2021, 186) aptly note, the indicative is not "isomorphic to assertion"—a view we endorse. As shown in Chapter 4, presupposed content in the CCs of RSVs, for instance, also appears in the indicative. Given that presupposition and assertion stand in complementary distribution, this challenges the assumption that the indicative is solely tied to assertion. Instead, one might argue—consistent with the proposal defended in this thesis—that the indicative marks belief or commitment, depending on which account one wishes to endorse. Second, if assertion is closely associated with the indicative, and if cognitive accounts treat the indicative as a marker of belief, this leads us toward an assertion model closer to that of Bach & Harnish (1979), where assertions express beliefs. In contrast, we have argued for a commitment-based view of verbal mood, in line with works such as MacFarlane (2011, 2014),Geurts (2019a,b, 2021), Krifka (2023), or Shapiro (2020). Under this view, the indicative functions as a marker of commitment, aligning well with the idea that assertion causes a commitment (Geurts, 2019a). This commitment-based account treats belief not as the essence of assertion, but as something potentially implied by a speaker's commitments. That is, while assertion is typically associated with

the commitment that the indicative marks in Romance, it does not follow that the speaker necessarily believes the content of the assertion. Rather, the speaker publicly takes responsibility for the proposition they commit to *qua* assertion. As we explored in detail in Chapter 3, phenomena such as exaggeration and lying (Venant & Asher, 2015) show that assertions need not express belief. A commitment-based account readily accommodates such cases, whereas a belief-based view struggles to explain speaker insincerity. The limitation may partly explain why Giannakidou & Mari (2021) explicitly restrict their analysis to cooperative conversational contexts in developing their theory of mood. On a normative, commitment-based view, the facts of assertion, commitment, and indicative mood align naturally, also accounting for pragmatic facts where a speaker is insincere.

While much work remains to be done for a full-fledged account to come to light, we have laid the groundwork for pursuing this line of argument. Existing frameworks (Schlenker, 2005; Giannakidou & Mari, 2021), while being based on cognitive notions, offer promising foundations in terms of their formal machinery that could be rewired for a normative commitment framework. For the case of Schlenker (2005)'s account of mood, for example, one might therefore consider that the indicative triggers a presupposition of a world time index at which an individual does not believe ϕ but is committed to ϕ.

As for the second aspect – clarifying the interpretive subtleties of mood alternation – we have adopted the Commitment Space (CS) framework (Cohen & Krifka, 2011; Cohen, 2006), in which we demonstrated that mood choice has crucial effects on the development of CS s. For example, in our analysis of RSVs, we argued that they reflect fine-grained distinctions in how propositions are integrated into the CG, or CSt, in Cohen & Krifka's terms. Specifically, in first-person contexts, RSVs taking the subjunctive are best modeled as instances of GRANT, i.e., the prevention of an update with $\neg\phi$, whereas RSVs with the indicative act as assertive moves, committing the speaker directly to ϕ (see also Buchczyk, to appear). In both cases, the speaker is constrained from committing to $\neg\phi$, since each move results in an update that integrates ϕ into the discourse. However, only the indicative use carries a speaker commitment to ϕ. Without such formal modeling, the pragmatic asymmetry introduced by mood choice would be difficult to account for: the subjunctive does not trigger a commitment, yet it precludes the speaker from endorsing $\neg\phi$. Additionally, without situating the utter-

ance in its discourse context, e.g. an update proposal with ϕ, we would miss the broader conversational dynamics that constrain the speaker's legal movements within a CS. By modeling such interactions within a CS framework, the subtle discourse effects of mood alternation become transparent. Similar insights emerged in our analysis of non-factive predicates, such as 'believe' under negation, where we showed that embedding an indicative clause leads to a speaker commitment to the embedded content. This, in turn, blocks the speaker from committing to or believing $\neg\phi$, as doing so would violate constraints on commitment consistency imposed by the CS model.

These two case studies illustrate a broader conclusion based on the data discussed for the CS framework: mood alternation has direct consequences for the speaker's permissible discourse actions. Depending on mood choice, speakers may be constrained in what movements they can legally undertake within the CS, or they may retain more flexibility. The CS framework thus offers a powerful tool for uncovering the discourse-level effects of mood in contexts of mood alternation. That being said, the current implementation of the model does not yet capture all relevant dimensions with equal precision. In particular, issues such as the interaction of mood alternation with tense-related aspects reveal certain limitations in the analysis offered, thus resorting to makeshift solutions. While these challenges do not undermine the model's overall utility, they highlight areas in which a more refined or enriched version of the theory would be needed to fully capture the empirical nuances.

A final note concerns the scope of the empirical data. The data set examined in this thesis has been deliberately narrow, focusing primarily on clear, representative cases of mood alternation across a limited set of verb classes. While this allowed for a more focused and controlled analysis, it inevitably left out a broader range of potential cases that could further test and refine the proposed generalizations made not only for mood as a phenomenon of signaling commitment, but also its modeling with a CS framework. In particular, the class of emotive predicates, while highly relevant and often discussed in the literature has not been treated here. Given the intricacies of their presuppositional behavior and perspective sensitivity, emotives would merit a dedicated investigation in their own right.

In sum, alongside shifting the discussion on mood beyond the predominantly cognitive perspective by foregrounding the role of commitments,

this thesis offered an alternative account that suggests a new way to ana-lyze mood. This is not to imply that cognitive factors are irrelevant; rather, they assume a less central role in the present analysis, allowing for a nor-mative account that highlights speaker commitments as central to under-standing mood alternation. By rethinking the function of mood in terms of commitments rather than belief, this thesis aimed to contribute to a deeper understanding of the semantics-pragmatics interface of mood and opens the door for a re-evaluation of long-standing assumptions about verbal mood in Romance.

2   Directions for future work

While there is a great deal of future work to consider, we limit ourselves here to three potential directions.

First, given the narrow scope of data considered in this thesis, we must acknowledge that some data points involving argument clauses remain un-explored in the context of this work — most notably, emotive predicates such as *encantar* (Cat. 'delight') or *se lamenter* (Fr. 'lament'), which also exhibit mood alternation (Quer, 1998, 2001; Siegel, 2004, 2009; Schlenker, 2005). As Quer (1998, 93) notes, emotives are "the most important stum-bling block for empirical generalizations about mood distribution", and thus represent a promising domain for testing the robustness of a commitment-based account of mood. Emotive predicates in Romance are particularly in-triguing with respect to presupposition. Since Klein (1975) and subsequent work (e.g., Gazdar, 1979; Schlenker, 2005; Egré, 2008), scholars have argued that verbs in this verbal class do not presuppose the content of the CC itself, but rather the matrix subject's belief in the CC's content. This bears relevant implications for speaker commitment since the speaker is committed not to the truth of the embedded proposition, but only to the matrix subject's be-lief in it. It is therefore noteworthy that these predicates tend to select the subjunctive. Recent work by Abrusán (2022, 2) suggests that presupposi-tions are sensitive to perspective, and that shifts in perspective can weaken or even cancel presuppositional content. Extending such an approach to emotives in Romance would be particularly valuable, as these verbs both trigger mood alternation and raise the compelling question of how perspec-tive shift interacts with mood selection. Investigating this connection could

shed new light on the interplay between presupposition, commitment, and mood in perspective-sensitive contexts.

Second, given that mood alternation often hinges on subtle interpretive distinctions, there is strong motivation to investigate these phenomena empirically. Recent experimental studies, such as those by Faulkner (2021a,b), which examine the information status of old and new information and their effects on mood, as well as Montero & Romero (2023), who tests the robustness of known cases of mood alternation that have mostly relied on introspection, offer promising avenues for future research. Although we have raised concerns about certain aspects of the experimental design in Montero & Romero (2023), this does not diminish the overall aim. Thus, empirically testing the stability and interpretive effects of mood contrasts is a crucial step forward. Such data could help adjudicate between competing theories of mood that we currently find on the market. To offer a concrete example related to the data discussed in this thesis, consider the RSVs as analysed in §4.2 in Chapter 5, for example. Here, it would be worth investigating whether subjunctive-selecting RSVs pattern similar to 'okay'-responses, as suggested in this thesis. Their behavior could be modeled using simple adjacency pairs to further probe their discourse effects in CSs.

Third, the overall analysis of mood alternation would benefit from a deeper theoretical grounding with a syntactic model. For instance, one might consider the layered model as proposed in Miyagawa (2022) and Krifka (2023). These accounts assume projections located in the syntactic treetops such as Act Phrases (ActP), Commitment Phrases (ComP), and Judgment Phrases (JudgeP), hierarchically ordered from highest to lowest. In such a framework, the contrast between indicative and subjunctive could be captured by assuming that verbs with an indicative morphology are situated in ComP, whereas verbs bearing subjunctive morphology would lie outside ComP.

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