

The Syntax and Semantics of *Light* Attitudes

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Abstract

This dissertation argues for the existence of functional attitude predicates, *LIGHT ATTITUDES*, such as light *SAY* and light *SEE*. Two phenomena are identified as functional attitudes: evidentiality and logophoric *say*-complementizers.

I propose that reportative evidential markers and logophoric licensing complementizers are cross-linguistic variations of overt morphosyntactic realizations of the same light attitude: a functionalized predicate *SAY*. The parallel between evidentiality and logophoricity drawn here highlights their properties that have not been discussed or formally accounted for until now, and explains why they are in a typological complementary distribution across the world's languages.

At the same time, direct and reportative evidentials even within the same language exhibit a number of syntactic and semantic differences that have not been noticed in the literature before. I derive them from the analysis of reportative and direct evidentials as different kinds of functional predicates: *SAY* and *PERCEIVE*, respectively.

After establishing the nature of evidentials, I develop their syntactic and semantic properties formally. I claim that light attitudes are hosted by a projection *cP*, which selects *CP* and has properties similar to that of the light verb projection *vP*, such as argument structure, thematic roles, and ‘flavors’. The semantic composition of light attitudes is based on that of lexical attitudes, for which I am following and expanding ideas from de-compositional semantics. This allows for a simple and conceptually motivated analysis that does not need any additional theoretical primitives. I develop novel methodology to test for evidential challengeability and newness of evidentials that take the between-evidential differences into account. The results support the representation of the evidential contribution as a presupposition.

Acknowledgments

When you have a hammer, everything looks like a nail

Maslow's law of the hammer

I often come across cases of Maslow's hammer when I read on the history of science and also creativity in general. What tools one has at hand turns out to underlie and prime discovery in all areas of endeavour of the human spirit. On one hand, this is tragic: we want our science to be objective, and our creative works to be the product of our imagination, which is presumably unbound, while the tools we have are very limited. But in a wicked way being 'constrained' channels and shapes our imagination, ideas, and creative thought.

Similarly, this dissertation is the product of all the tools that I have been handed or stumbled upon throughout the years, and each of them has contributed to this work being what it is (the errors and omissions it inevitably contains remain of course mine). I am grateful for each piece of idea and person. If I had met different people along the way, this work would have been different. I would have been different.

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Dedication

To Brandon and all who quit.

Les devises Shadok



EN ESSAYANT CONTINUUELLEMENT
ON FINIT PAR RÉUSSIR. DONC:
PLUS ÇA RATE, PLUS ON A
DE CHANCES QUE ÇA MARCHE.

*By trying continuously, one ends up succeeding. Therefore: the more it fails, the
better chance for it to work.*

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Chapter 1

Overview of the findings and organization of the dissertation

This dissertation argues for the existence of functional propositional attitudes and explores their properties. By FUNCTIONAL ATTITUDES, I mean elements that have semantic import reminiscent to that of a lexical attitude, such as *say*, *see*, but encoded in a functional linguistic element. I call these LIGHT ATTITUDES in allusion to so-called *light* verbs: verbs that have functional properties (e.g. causative, passive) as opposed to lexical verbs like *jump*, *eat*, *sing*. I use the notation of small caps to represent light attitudes, e.g. the functional version of the verb *say* is SAY.

This dissertation contains four chapters, in addition to the present introduction and the concluding Chapter §6. This chapter provides an overview of the domain of inquiry and the main results, without a detailed survey of the literature. Such reviews are provided in later chapters as they become relevant. Chapters §2 and §3 present the empirical scope of the light attitude hypothesis covered by this dissertation. Chapters §4 and §5 offer a formal account of (respectively) the syntax and semantics of light attitudes within the theoretical framework of Generative Grammar.

The main empirical, methodological, and theoretical findings of each chapter are presented next.

1.1 Chapter 2: The nature of evidentiality

1.1.1 Framing the question

In Chapter §2: *The nature of evidentiality*, I identify one kind of representatives of light attitudes: EVIDENTIAL markers. Evidentials are grammatical markers that encode information source. The following example illustrates evidentiality and shows an intuitive representation of how it relates to attitude verbs. Tuyuca (Eastern Tucanoan) has an elaborate evidential system that includes a direct visual evidential marker (1a) and a direct auditory evidential (1b), as well as a number of indirect evidential markers: indirect from results, (1c), an indirect from reasoning, (1e), and a reportative (1d). The contribution of the evidential marker is provided in brackets and highlighted in bold, e.g. ‘I **saw** him play’ (1a) or ‘Someone **told** me that he played’ (1d).

(1) Tuyuca evidentials:

- a. díga apé-**wi**
‘He played soccer’. (I **saw** him play.)
- b. díga apé-**ti**
‘He played soccer’. (I **heard** the game and him, but I didn’t see it.)
- c. díga apé-**yi**
‘He played soccer’. (I have **seen evidence** that he played: his distinctive shoe print on the playing field. But I did not see him play.)
- d. díga apé-**yigi**
‘He played soccer’. (I obtained the information from **someone else** [= someone **told** me].)
- e. díga apé-**hiyi**
‘He played soccer’. (It is reasonable to **assume** that he did.)

[Tuyuca] Barnes (1984): 257, (1)-(5)

In Chapter §2, I present a survey of the currently predominant formal theories of evidentiality and argue that none of them make correct predictions about evidentials when examined in more detail. For example, according to one popular semantic theory first proposed by Izvorski (1997) based on data from Bulgarian (South Slavic), evidential markers are strong epistemic modals. An updated epistemic modal view by Matthewson et al. (2007), based on data from St’át’imcets (Salish), suggests that evidentials are modals but without a force component, and that languages differ cross-linguistically in whether their modals encode modal force or evidential source.

Izvorski’s modal proposal has been challenged by Sauerland and Schenner (2007, 2013), who show that it makes the wrong predictions for the interpretation of Bulgarian evidentials in embedded clauses. I present their arguments and add novel evidence to support their claim. I compare the interpretation of evidentials and epistemic modals in Bulgarian under the scope of attitude verbs and negation: they have different patterns of syntactic and semantic behavior. Another prediction following from the hypothesis that evidentials are epistemic modals is that they should be in complementary distribution. I present novel evidence demonstrating that this is not borne out, but evidentials and modals can co-occur and interact, and evidentials always scope over modals.

I show that Matthewson et al.’s ‘source or force’ hypothesis does not hold cross-linguistically. For example, while correctly predicting that evidential markers would not encode modal force because they encode source of evidence, the source or force hypothesis also predicts that a language that has evidential markers cannot have ‘regular’ epistemic modals with lexically marked force. This is not the case in Bulgarian, which has both evidential markers and force-marked epistemic modals, and potentially in many other languages with evidential markers as well. As for the explanation of why evidentials do not have force, if they are not epistemic modals, there is no reason to assume they would have force to begin with.

According to another theory, first proposed for Cuzco Quechua by Faller (2002)

and later modified and adapted for Cheyenne by Murray (2010a), evidentials are illocutionary operators, that is, they are interpreted after the truth-conditions of a sentence are computed. Faller (2002) represents evidentials as speech acts, for example, a direct evidential is represented as an assertion with enriched sincerity conditions that the speaker has the best possible grounds to believe the proposition that is within the scope of the evidential marker. A reportative evidential, on the other hand, is an entirely new kind of speech act, PRESENT: the speaker is not asserting that the scope proposition is true but merely presenting someone else's utterance.

Illocutionary approaches assume that there is a typological split of evidential languages into the modal/propositional ones and illocutionary/speech-act ones. A split would entail substantial differences between the properties of evidentials in the two groups. I provide novel arguments that question the idea of a split. At the same time, most previous theoretical (be they split or non-split) and some typological approaches to evidentiality assume that evidentials within the same language behave uniformly. One of the themes of this dissertation is that they do not, and this is derived from the main proposal on the nature of evidentiality.

Rejecting the dominant existing hypotheses on the nature of evidentiality calls for a new theory. I propose that evidentials can be modelled as functional propositional attitude verbs, such as a light *say* for reportative evidentials, and a light *perceive* for direct evidentials (or *see*, *hear* for specialized visual and auditory evidentials). The concept is introduced in this chapter and refined from empirical and theoretical standpoints over the rest of the chapters.

1.1.2 Summary of novel data and tests

The contributions introduced in this chapter and summarized below are methodological. The particular empirical results reported here have significant consequences for some of the existing formal theories of evidentiality, such as bringing to light new, unnoticed to date, problems for modal and illocutionary approaches alike.

1.1.2.1 Three new tests for evidentials and epistemic modals

Most of the literature that analyzes evidentials as epistemic modals does not show that they do in fact pattern similarly to modals within the same language. To that end, I propose three methodological tests: (i) compare behavior in embedded clauses under attitude verbs (*think*, *say*) (expanding on ideas in Sauerland and Schenner, 2007); (ii) compare behavior with respect to negation; (iii) check for co-occurrence of evidentials with modals. If evidentials behave analogously to modals with respect to the first two properties, this constitutes evidence in support of the evidentials-as-modals hypothesis. If, on the other hand, evidentials behave differently from modals and co-occur with them, this is problematic for the evidentials-as-modals hypothesis. The three tests are illustrated below for Bulgarian and summarized in Table 1.1 (they are discussed in detail in Chapter §2).¹

An important methodological refinement I introduce here and maintain throughout the dissertation is that not all evidentials are created equal: each item of the evidential paradigm in a given language should be tested explicitly instead of over-generalizing from the behavior of one item for the whole set. This within-language heterogeneity has been first systematically documented by Faller (2002) for Cuzco Quechua, but has not been taken into account in posterior works (though further occasional evidence for it is found in Matthewson et al., 2007 for St’át’imcets, Murray, 2010a for Cheyenne, Peterson, 2010 for Gitskan, and Şener, 2011 for Turkish; see also AnderBois, 2014). The within-evidential, between-language heterogeneity is

¹A note on the morphology of evidentials in Bulgarian: the reportative evidential is a bare past participle (also called *-l* participle) in the third person and involves a copula in the present tense in other persons; direct evidentials are represented only in morphologically past tenses, as is the case in many other languages (see discussions in Friedman, 2000; Aikhenvald, 2004; Straughn, 2011; Khalilova, 2011 and references therein). In Bulgarian, these are the aorist, imperfect, past perfect, past future and past perfect future. These tenses also have non-evidential uses in certain contexts. See Scatton (1984) for a reference grammar of Bulgarian. Throughout the dissertation, all glosses in all languages represent the evidential meaning, not the morphology.

illustrated below with Bulgarian, where with regards to property (i) — obligatory shift under attitudes — there is a three-way distinction between epistemic modals (shift, (2a), (3a)), reportative evidential (no shift, (2b), (3b)), and direct evidential (not possible (2c), (3c)).

(2) Context: Nina said: “Tonko may/must have been home.”

- a. Nina kaza, che Tonko **mozhe/tryabva** da e bil vkushti.
Nina said that Tonko may/must DA is been home
‘Nina said that Tonko may/must have been home.’
- b. #Nina kaza, che Tonko **bil** vkushti.
Nina said that Tonko be.REP home
‘Nina said that Tonko was home.’
- c. *Nina kaza, che Tonko **beshe** vkushti.
Nina said that Tonko be.DIR home
‘Nina said that Tonko was home.’

[Bulgarian]

(3) Context: Nina says: ‘Tonko was home.’

- a. #Nina kaza, che Tonko **mozhe/tryabva** da e bil vkushti.
Nina said that Tonko may/must DA is been home
‘Nina said that Tonko may/must have been home.’
- b. Nina kaza, che Tonko **bil** vkushti.
Nina said that Tonko be.REP home
‘Nina said that Tonko was home.’
- c. *Nina kaza, che Tonko **beshe** vkushti.
Nina said that Tonko be.DIR home
‘Nina said that Tonko was home.’

[Bulgarian]

(4) **Negation test:** epistemic modal (a), reportative evidential (b-i), direct evidential (b-ii):

- a. Modal and negation: surface scope=interpretation, both scopes are possible.

- (i) **Ne mozhe** da vali.
 not may DA rain
 ‘It is not possible that it is raining.’ surface=interpretation $\neg > \Diamond$
- (ii) **Mozhe** da **ne** vali.
 may DA not rain
 ‘It may be the case that it’s not raining.’ $\Diamond > \neg$
- b. Evidentials: only the surface scope $\neg > \text{EV}$ is possible, but evidentials only have wide scope interpretation:
- (i) **Ne valjalo**.
 not rain.REP
 ‘Reportedly, it isn’t/wasn’t raining.’ $\text{EV} > \neg$
 # ‘It wasn’t reported that it was raining.’ $\neg > \text{EV}$
- (ii) **Ne valeshe**.
 not rained.DIR
 ‘It wasn’t raining, as per my direct evidence.’ $\text{EV} > \neg$
 # ‘I do not have direct evidence that it was raining.’ $\neg > \text{EV}$
- (5) **Co-occurrence test:** modal and reportative evidential (a), modal and direct evidential (b), reportative and direct evidential (c)
- a. Tonko **mozhelo/tryabvalo** da e vkushti.
 Tonko may/must.REP DA is home
 ‘Reportedly, Tonko may/must be/have been home.’
- b. Tonko **mozheshe/tryabvashe** da e vkushti.
 Tonko may/must.DIR DA is home
 ‘According to my own view, Tonko might/must have been home.’
- c. *val-eshe-lo/ val-jalo-she
 rain-DIR-REP rain-REP-DIR.

Table 1.1 summarizes the results presented in the data above for Bulgarian. A detailed discussion is found in Chapter §2.

To summarize, the results show that the two evidentials differ from each other in embedded clauses and differ from embedded modals. The two evidentials pattern

	Modals	Reportative ev	Direct ev
Embedded shift	Yes	No	Not possible
Interaction with negation	$\neg\Box p$ and $\Box\neg p$	$\text{Ev}\neg p$ only	$\text{Ev}\neg p$ only
Co-occurrence with each other	$\checkmark$ Modal+Rep, $\checkmark$ Modal+Dir, *Rep+Dir		

Table 1.1: Interaction between epistemic modals and reportative and direct evidentials in Bulgarian

together with respect to negation, and also differ from modals. Modals can co-occur with each of the evidentials, but the two evidentials cannot co-occur with each other, which suggests that modals and evidentials in this language do not form a natural class.

1.1.2.2 New diagnostics for evidential newness

Various modal approaches to evidentiality have encoded at least part of evidential markers' contribution as presuppositions. Presuppositional approaches have been criticised by illocutionary ones on the basis of the following argument: presupposition encodes information that is shared between the speaker and the addressee, while evidentials always contribute information new to the addressee — so there can be no conceptual intersection between the two. In Chapter §2, I revisit both parts of the argument and conclude that evidentials are not specified for newness, nor are presuppositions specified for sharedness. The summary here provides only the new findings on evidentiality.

Support for the lack of a newness condition of evidentials already abounds in the literature, but the relevant data have not been considered with respect to the question of newness. The novel contribution in Chapter §2 is to summon these existing data in addressing the question of newness. They are summarized here in (6) and broken down below. Note that the test is not biconditional: if any of these do not hold, that does not entail that an evidential is specified for newness.

- (6) An evidential cannot be specified for newness if any of these hold:
- (i) It allows shift to addressee in questions
 - (ii) It can be used in answers to questions involving shifted evidentials
 - (iii) It can be used anaphorically
 - (iv) It is a secondhand reportative evidential

The first two conditions are demonstrated by the following example of a question-answer pair, used to show that the interpretation of the evidential shifts to the addressee in a question. However, the example also informs the newness hypothesis in two important ways: (i) in the question, (7a), if the evidential contributed necessarily new information, it would entail either that the addressee having reportative evidence is new to the addressee, or — if the newness condition shifts too — that it is new to the speaker. It is easy to see how neither of these options is viable: it is not only unlikely that the addressee does not know what evidence they have, but it is also refuted by the answer, which contains an evidential; if the evidence was new to the speaker, then it would be infelicitous to utter a question marked with it by virtue of the very hypothesis of the newness condition (*reductio ad absurdum*); (ii) the answer, (7b), shows that the use of the evidential is not new to the addressee (the person who asked the question) either, because that person already used the reportative in the question.

- (7) a. Ima-ta-s Ana Berta-wan wayk'u-rqa-n-ku?
 what-ACC-SI Ana Berta-INSTR cook-PST1-3-PL
 'What did Ana and Berta cook?'
 EV = speaker assumes that hearer was told what Ana and Berta cooked
- b. Ana papa-ta-s (wayk'u-rqa-n), tarwi-ta-taq-si Berta.
 Ana potato-ACC-SI cook-PST1-3 tarwi-ACC-CONTR-SI Berta
 'Ana (cooked) potatoes and Berta tarwi.'
 EV = speaker was told that Ana cooked potatoes, and speaker was told

that Berta cooked tarwi.

[Cuzco Quechua] **Faller** (2002): (210)

The third diagnostic, (6-iii) is that of anaphoric meanings. **Murray** (2010a) provides a number of examples showing that a reportative evidential can anaphorically refer to a lexical expression of a report in another sentence within the same conversation, as in (8). In this example, the reportative evidential used by the speaker does not mark a new, unrelated report, but instead clarifies the content of the report just introduced by the previous sentence. If the evidential introduced new information, such an interpretation would not be possible, and the evidential in the second sentence would have to be interpreted as unrelated to the reporting event described in the first sentence and referring to a different report event. Thus example (8) provides a clear-cut diagnostic for falsifying the newness hypothesis (again, this diagnostic is unidirectional).

- (8) éšee-va ná-éstsestov-o-∅ Dale. é-h'o'taheva-**sestse** Annie.
day-OBL 1-speak.to.s.o-1:3-DIR Dale 3-win-REPORTATIVE-3SG Annie
'Yesterday I spoke to Dale. [He ('he'='Dale') says that] Annie won.'

[Cheyenne] **Murray** (2010a): (5.19)

While the data discussed above all involve reportative evidentials, I provide data with direct evidentials that contribute two novel empirical findings to the study of evidentiality: (i) showing for the first time that direct evidentials can also have anaphoric readings, i.e. anaphoricity is not an idiosyncratic trait of reportatives; (ii) showing, by the same reasoning as above, that the lack of a newness requirement holds also of direct evidentials. In the following example, (9), the speaker tells (e.g. the police or a friend) about a road accident that she or he was an eyewitness to. There are three direct evidentials in this example (one for each verb), but only the first one introduces new evidential information. Since the addressee learns from the first sentence that the speaker has direct evidence, all posterior direct evidentials cannot be new

information to her.

- (9) Vchera **stanah** svidetel na uzasna katastrofa. Kola i avtobus
yesterday became.DIR witness of terrible crash car and bus
se **blusnaha...** Kolata **izhvurcha** ot putya...
REFL collide.DIR car.DEF flew.DIR from road.DEF
‘Yesterday I witnessed a terrible crash. A car and a bus collided. The car flew
out of the road...’

[Bulgarian]

The newness condition is all the more problematic in languages where direct evidentials are morphologically null, such as in Cheyenne, Murray (2010a). This would entail that each unmarked sentence can be uttered felicitously only if its direct evidential contribution is new to the addressee, leaving it impossible to convey examples like (9).

Finally, (6-iv), there is a whole class of evidentials called secondhand reportatives (Willett, 1988), which can only be used if the source of the report they convey is identified (salient) in the discourse. In result, a secondhand evidential is contributing information that is part of the common ground: both that there was a report and by whom it was. This means that all secondhand evidentials by definition cannot be specified for newness. An example of a secondhand reportative evidential is the Cheyenne *sestse* classified by Murray (2010a) and presented in (8).

1.1.2.3 New tests for evidential challengeability

One of the few aspects of evidentiality that researchers agree on, regardless of their theoretical approach, is that the evidential contribution is not challengeable in conversation. Thus, refuting it entails significant consequences for any existing theory of evidentiality, and has to be taken into consideration by any future theory.

I show that the non-challengeability consensus turns out to be due to a methodological flaw: the test that has been replicated over and over to check for challenge-

ability is uninformative. It shows that some evidentials cannot be challenged in some cases, but do not show unequivocally that for each type of evidential, it is not at all possible to be challenged.

A conclusive test can be constructed only once the nature of a particular evidential contribution is taken into account — and the contribution of each type of evidential is different, as reiterated throughout this dissertation. Then we can identify precisely what kind of context would be needed to falsify or support the challengeability hypothesis for that specific evidential.

Thus, the findings presented in Chapter §2 and summarized here, make two contributions: new methodological tools to properly test for challengeability (taking into account evidentials’ nature and differences) and new data — both naturally occurring and elicited — that falsify the non-challengeability hypothesis.

The results are summarized here and discussed in detail below.

- (10) a. A **direct** evidential can be felicitously challenged if either of these holds:
 - (i) it is objectively impossible that its user have acquired such evidence, e.g. the event happened before one was born
(NB: not applicable to evidentials that convey general knowledge)
 - (ii) the same is implausible in view of the challenger’s knowledge
- b. A **reportative** evidential can be felicitously challenged if both of these holds:
 - (i) the source is known to the the challenger
 - (ii) the challenger has reasons to doubt that the source would have said such thing (‘reputation condition’)

When could a conversational participant challenge the contribution of a direct evidential? Direct evidentials involve first-hand access to the information conveyed by the scope proposition of the evidential, sometimes even narrowly specified as visual, auditory, etc., i.e. the speaker has to have been an eye-witness (or ear-witness...)

to the event in order to use a direct evidential. Therefore, the felicitous conditions for conversationally challenging a direct evidential would be such that it is either (strongest case) objectively impossible that the speaker has had direct access to the event, or at least (weaker case) considered highly implausible by the challenger.

Perhaps the most clear scenario where it is objectively impossible for the speaker to have first-hand knowledge (though there are many others) is when discussing events that occurred before the speaker was born. The following example from a natural conversation illustrates this. The son is an adolescent, heritage speaker of Bulgarian and the mother's response meant to correct his Bulgarian and directly questions the evidential contribution, not the veracity of the proposition, which is a story that she has told him about his childhood at some earlier point. Even though he was of course physically present at the events of his crying, the son could not possibly remember consciously his infancy, and thus cannot felicitously use the direct evidential.

(11) Son:

- a. #Kogato bjax bebe, **placheh** mnogo.
 when was.1SG.DIR baby cry.1SG.DIR many
 Intended: 'When I was a baby, I cried a lot.'

Mother:

- b. Ti da ne bi da pomnish kolko problemi ni
 you to not COND to remember how-many problems us.DAT
 suzdavashe?!
 created.2SG.DIR
 'As if you could remember how many problems you created for us!'

[Bulgarian]

The next example is constructed and consistently rejected by native speakers. It is important to note that in fiction, anything goes. So such examples should be tested with the clarification that they are meant to represent the speaker's real-life

experience, not a fictional story.

- (12) #Kogato bashta mi se **rodi**, dyado mi **posadi**
when father my REFL be.born.DIR baby grandfather my
darvo pred kushtata...
planted.DIR tree in.front.of house.DEF
intended: ‘When my dad was born, my grandfather planted a tree in front of
the house...’

[Bulgarian]

In a real life story (i.e. excluding fiction), the speaker could not have witnessed the birth of his/her own father.

These examples illustrate the strongest way to challenge a direct evidential: when it is objectively impossible that the challengee has had direct evidence. But in many more cases, an addressee might challenge a speaker’s direct evidential that is implausible and thus suspicious. The following naturally occurring example is taken from the comments section under a piece of news about a terrorist attack in Kabul, Afghanistan. Commenter A uses a direct evidential form when discussing the number of attackers, arguing against the claims in the news article that the attacks were spontaneous and by few armed men. The other commenters, B and C, challenge A (and C mocks him) because it is highly unlikely that Speaker A was actually present during the attacks and at the same time was online.

- (13) **A:** Atakite **byaha** dosta dobre organizirani i v nikakav sluchai ne
attacks were.DIR very well organized and in no way not
byaha ot samo 5-6 dushi.
were.DIR from just 5-6 people
‘The attacks were very well organized and definitely not by just 5-6 people.’

B: “He(=A) is exaggerating, given that he probably wasn’t there...”

C: “Were you(=A) there, that you are saying this, as if you were there with the RPG?”

Since reportative evidentials encode a different kind of evidence: report as opposed to first-hand experience, it is natural to expect that challenging a reportative marker would require different felicity conditions from those for challenging direct evidentials. In order to show unequivocally that a reportative evidential is wrongly used, one has to be able to argue that such a report could not have existed. But anything could have in principle been said. Thus, due to the very nature of reports, reportative evidentials cannot be unequivocally challenged. (Note: it is not the content of the rumour that needs to be implausible, but the mere existence of a rumour with such content.)

They can, however, be challenged on the basis of implausibility when relativized to a particular author: this one person is highly unlikely to have said that. I call this the reputation condition and it is illustrated below with a constructed minimal pair where the report and the answer are the same, and the only difference is who the source of the report is. The two sources are real persons who sport very clear-cut and diametrically opposite reputations: Donald Trump, who publicly denounces global warming, and Greta Thunberg, who is an environmental activist.

- (14) A plausible report cannot be felicitously challenged on the basis of implausibility.

Reputation: Trump is known to publicly reject the existence of the global warming.

a. Speaker A:

Spored Trump **nyamalo** globalno zatoplyane.
according.to Trump is-no.REP global warming
'According to Trump, there is no global warming.'

b. Speaker B:

#Ne, ne mozhe da e kazal tova!
no not may DA be said.MASC this

‘No, he could not have said this!’

[Bulgarian]

- (15) An implausible report can be felicitously challenged on the basis of implausibility.

Reputation: Greta Thunberg is a famous environmental activist.

a. Speaker A:

Spored Greta Thunberg **nyamalo** globalno zatoplyane.
according.to Greta Thunberg is-no.REP global warming
‘According to Greta Thunberg, there is no global warming.’

b. Speaker B:

Ne, ne mozhe da e kazala tova!
no not may DA be said.FEM this
‘No, she could not have said this!’

[Bulgarian]

This minimal pair shows that when the report is plausible considering the reputation of its source, as in (92), the report cannot be felicitously questioned by the interlocutor, but when the report is implausible based on its source’s reputation, as in (15), the report can be felicitously challenged by the interlocutor. The latter falsifies the non-challengeability hypothesis with respect to reportative evidentials.

Previous works have considered only challenges of the sort ‘You were not told this’ (Faller, 2002) and ‘Nobody said that’ (Murray, 2010a), without controlling for plausibility and reputation, and have interpreted the resulting infelicity of such challenges as an intrinsic property of evidentiality. As pointed out above, this is a property of rumours (i.e. reports with no identified sources): for any report, there could be someone who could have said it, so one can never object that ‘Nobody said that’.

The results are summarized in Table 1.2.

The findings summarized here have methodological and theoretical implications:

	Direct	Identified source	Rumour	General knowledge
impossible	✓	?	n/a	n/a
implausible	✓	✓	n/a	n/a

Table 1.2: Which kinds of evidentials can be tested for challengeability.

they call for revisiting previously accepted claims about evidential non-challengeability in many languages and pose issues for theoretical accounts built around it.

1.2 Chapter 3: Evidentiality and logophoricity

1.2.1 Overview

While Chapter §2 involves methodological innovations and discussion of literature with regards to existing questions in the study of evidentiality, in Chapter §3, I begin to explore some of the novel research questions that stem from the theoretical paradigm of evidentials as functional attitudes advocated in this dissertation. The empirical focus is mainly on Bulgarian, with supporting evidence for the cross-linguistic validity of the findings from Tagalog and Azeri. The idea that different evidentials have various different properties — already highlighted in Chapter §2 — is further justified by the findings in Chapter §3.

One such new question is whether and how functional attitudes may interact with lexical attitudes. To my knowledge, this question has not been explored, even though it is not immediately dependent on regarding evidentials as functional attitudes. But the hypothesis that evidentials are part of a larger family of attitudes provides a roadmap for devising informative tests to address it and interpreting the results (see methodology and discussion in §1.2.2.1).

Another fruitful line of inquiry that stems from the functional attitude theoretical paradigm is how evidentiality compares with other functional attitudes. I use as a

case study so-called *say*-complementizers: clausal subordinators with communicative attitude overtones. Languages famous for having *say*-complementizers are what I call DEDICATED LOGOPHORIC LANGUAGES (also called ‘pure’ by Culy, 1994a), that is, languages with marking used in embedded clauses to show obligatory co-reference with a matrix attitude holder. This marking is illustrated in the example from Ewe below, where the pronoun *yè* marks obligatory co-reference with the matrix attitude holder (16a), and the pronoun *e* marks obligatory non-co-reference, (16b). Crucially, logophoric pronouns can only appear in clauses headed by the *say*-complementizer *be*. The interpretation of *be* as conveying a communicative meaning is so prominent that the lexical *say*-verb is optional.

- (16) a. Kofi (gblo) **be** **yè**-dzo.
 Kofi say *say*-COMP LOG-leave
 ‘Kofi_i said that he_{i/*j} (=Kofi) left’
- b. Kofi (gblo) **be** **e**-dzo.
 Kofi say *say*-COMP 3SG-leave
 ‘Kofi_i said that he/she_{*i/j} (≠Kofi) left’

[Ewe] Dimmendaal (2001): 132, (1), (2)

Under my hypothesis that evidentiality are functional attitudes, logophoric languages — as also containing functional attitudes — provide a window for investigating the properties of evidentiality. Chapter §3 investigates the nature and properties of logophoricity and how it relates to evidentiality. The main finding is that evidentiality has a number of properties parallel to those of logophoricity and unpredicted by existing theories of evidentiality.

In discussing the properties of logophoricity, it is important to clarify that the term has been used also for LONG-DISTANCE REFLEXIVE PRONOUNS. These are reflexive pronouns that can also be used in those cases where, in a logophoric language, a logophoric marker would be used, as illustrated below from Mandarin. The pronoun

ziji is a reflexive, (17a), and (17b) demonstrates its long-distance use, similar to (16a).

- (17) a. Zhangsan pipingle **ziji**.
 Zhangsan criticized self
 ‘Zhangsan criticized himself.’
- b. Zhangsan juede Lisi zai piping **ziji**.
 Zhangsan think Lisi at criticize self
 ‘Zhangsan thinks Lisi is criticizing him.’

[Mandarin] Huang and Liu (2001): (62a), (53)

However, despite the similarities, there are a number of properties that long-distance reflexives have but logophoric forms do not have. I examine five such properties in detail: reflexivity, obligatory sloppy readings under ellipsis, no disjoint reference when more than one form is used in the same clause, obligatory *de se* interpretations, and person restrictions. I show (§3.1.2) that logophoric markers do not share any of these properties with long-distance reflexive forms. Therefore, these five properties cannot be said to be properties of logophoricity. They are not summarized here because they are not relevant evidentiality and dedicated logophoricity.

Using data from the descriptive literature on logophoricity, I present three properties of logophoricity and show that — as predicted by the functional attitude hypothesis — reportative evidentials (SAY-based functional attitudes) share them, while direct evidentials (PERCEIVE-based functional attitudes) do not.

The first property of logophoric pronouns consists in the selectional restriction of embedded clauses containing logophoric pronouns and *say*-complementizers: they favor communicative predicates and are rarely attested under perceptual predicates. This is analogous to the matrix predicate sensitivity of reportative evidentials mentioned above. This is explained under the functional attitude hypothesis because *say*-complementizers and reportative evidentials represent a functionalized version the same propositional attitude predicate: *say*.

The second property of logophoric languages is that logophoric markers refer to a person who carries the semantic role of an attitude holder, usually of indirect speech, as opposed to, for example, a grammatical role such as subject. This is illustrated in example (18).

- (18) ao-se tso Kofi gbo be **yè**-ko nunana
 PRO-hear from Kofi side *say*-COMP LOG-receive gift
 ‘I heard from Kofi_i that he_i had received a gift.’

[Ewe] Clements (1975): 158, (44)

Reportative evidential markers, too, encode a semantic attitude holder (see test in §??). This finding is of particular importance to the study of evidentiality because evidentials have been regarded since Garrett (2001) as encoding only one thematic role: EVIDENTIAL ORIGO, or the person who acquired the evidence. In the case of a reportative evidential, that would be the person (most often the current speaker) who heard a report from the source. But the SOURCE of the report has not been previously considered to be formally encoded in reportatives, to the exception of Faller (2002). Only reportative evidentials encode source, which sets them apart from all other kinds of evidentials, once again highlighting that evidentials encoding different kinds of evidence can have significantly different properties from each other.

The third property is a perspectival restriction on who the attitude holder can be. In the majority of logophoric languages, logophoric forms resist representing the current speaker or addressee as an attitude holder and can only represent third-party attitude holders. This is illustrated in the example below, where a third-person matrix attitude holder can be an antecedent of an embedded logophor, as in (19a), while a first-person attitude holder cannot be, as in (19b).

- (19) a. **Yo inyem**ε yogo boojeμ gi
 3SG LOG tomorrow go-PRG:1SG said.3SG
 ‘{He/She}_i said that {he/she}_i will leave tomorrow.’

- b. ***Mi** **inyemε** yogo bojem gim
 1SG.SUBJ LOG tomorrow go-PRG:1SG said.1SG
 Intended: ‘I said that I will leave tomorrow.’

[Donno So] Culy (1994b): 114, (3)

I show (new tests and data summarized in §1.2.2.2) that reportative evidentials pattern like logophoric forms. Furthermore, I show that direct evidentials have the opposite perspectival restriction: they represent the speaker’s perspective. A further substantial difference with reportative evidentials is that, while reportatives are not allowed under a first-person matrix attitude holder at all, direct evidentials are allowed, but still represents the speaker’s experience.

The accounts of evidentiality presented in Chapter §2 do not predict that logophoric properties — matrix predicate sensitivity, attitude holder semantic role, and perspectival restrictions — apply to evidentiality, or how (i.e. the differences between direct and reportative evidentials). The functional attitude hypothesis explains these phenomena because both logophoric markers and reportative evidential markers represent the same functional attitude: SAY. Direct evidentials, on the other hand, represent the functional version of PERCEIVE and therefore are correctly predicted to not pattern like logophoric markers or like reportative evidentials.

While the sensitivity of logophoricity to the type of matrix predicate is well known in the descriptive literature on logophoricity, to my knowledge, a theoretical explanation of it has not been attempted. Another appealing consequence of the functional attitude hypothesis is that why these particular properties are manifested can find an explanation in the interaction between a functional and a lexical element of the same nature.

Finally, the functional attitude paradigm provides an explanation of why evidentiality and logophoricity are in typological complementary distribution, i.e. there is no known language that has both phenomena (Aikhenvald, 2004). This is predicted by a proposal that regards them as two variants of the same underlying phenomenon,

functional attitudes.

1.2.2 Summary of novel data and tests

While the tests in the previous chapter were devised to inform existing debates on the properties of evidentials, the tests summarized below introduce methods for describing and understanding evidentials with regards to properties that have not yet been considered in the scientific inquiry on evidentiality.

1.2.2.1 Predicate test: interaction between embedded evidentials and matrix attitudes

Few works have discussed evidentials in embedded clauses, and none have compared different evidentials under different classes of matrix attitudes.² The predicate test is designed to fill that gap, and the results show that all evidentials do not behave uniformly under all predicates.

Here the direct and reportative evidentials in Bulgarian are tested under four classes of predicates (see Chapter §3 for crosslinguistic data): communicative (*say*), belief (*believe*, *think*), direct perception (*see*)³, emotive factives (*be happy*). The results, summarized in Table 1.3, highlight, once again, the importance of comparing

²For example, Garrett (2001) does not discuss direct evidentials in embedded clauses, but only compares egophoric and non-egophoric markers; Sauerland and Schenner (2007) consider predicates where they find the full range of evidential oppositions — this class of predicates is shown here to be somewhat of an exception, and classes of verbs where only one kind of evidential is allowed are considered significant here; other scholars are working with languages that only have an indirect evidential, e.g. German (Schenner, 2010b,a), Tagalog (Schwager, 2010), Georgian (Korotkova, 2016).

³Only the direct perception meaning of the respective verbs for ‘see’ was tested. Whether the verb ‘see’ in Azeri, Bulgarian, and Tagalog has epistemically non-neutral interpretations has not been tested. I thank Keir Moulton for bringing this detail to my attention. Perhaps indirect perception predicates will interact with ‘evidence from results’ types of evidentials, see Willett’s taxonomy in 2.1.

different evidential markers within the same language. Under *say* (20) and *think* (21), reportative is possible but direct is not, under *see* (22), it's the opposite, and under *be happy* (23), both evidentials are possible.

(20) Direct and reportative evidential under *say*

Reni **kaza**, che {***zavalja**/✓**zavaljalo**}.
 Reni said that start.rain.DIR/REP
 'Reni said that it started raining.'

(21) Direct and reportative evidential under *think*

Reni **misli**, che {***zavalja**/✓**zavaljalo**}.
 Reni thinks that start.rain.DIR/REP
 'Reni thinks that it started raining.'

(22) Direct and reportative evidential under *see*

Reni **vidja**, che {✓**zavalja**/***zavaljalo**}.
 Reni saw that start.rain.DIR/REP
 'Reni saw that it started raining.'

(23) Direct and reportative evidential under *be.happy*

Reni se **zaradva**, che {✓**zavalja**/✓**zavaljalo**}.
 Reni REFL got.happy that start.rain.DIR/REP
 'Reni got happy that it started raining.'

The results of the test are summarized in Table 1.3.

	direct	reportative
<i>say</i>	no	yes
<i>think</i>	no	yes
<i>see</i>	yes	no
<i>be.happy</i>	yes	yes

Table 1.3: Summary of the results of the predicate test for the direct and reportative evidentials in Bulgarian

To conclude, the predicate test presents novel evidence that evidentials interact with different classes of matrix attitudes in interesting ways, and that different kinds of evidentials (such as reportative *vs* direct) have different distributional properties.

1.2.2.2 Perspective test: does matrix person affect embedded evidentials?

What few examples are provided with evidentials in embedded clauses, they inevitably have third person matrix subjects. On the other hand, an interaction between person and indirect evidentiality has been discussed in matrix clauses by Curnow (2001). However, I am not aware of discussion of person effects between matrix subjects with embedded evidentials. The test summarized here is devised to fill that gap, and the results show that evidentials are perspectively charged, but different kinds of evidentials encode different perspectives. Reportative evidentials encode a third-personal perspective (24) as they are incompatible with first person attitude holders. This means that the source (see §??) cannot be the speaker.

- (24) a. **Reni** kaza, che **zavaljalo**.
 Reni said that rain.REP
 ‘Reni said that it started raining.’
- b. ***Az** kazah, che **zavaljalo**.
 I said that rain.REP
 Intended: ‘I said that it started raining.’

[Bulgarian]

Direct evidentials have the opposite perspectival restriction: they represent the speaker’s perspective, compare the grammatical (25a) with the ungrammatical (24b). A difference with reportative evidentials is that, while reportatives are not allowed under a first-person matrix attitude holder at all, as in (24b), the direct evidential in (25b) is allowed, but still represents the speaker’s experience.

- (25) a. **Az** vidjah, che **zavalja**.
 I saw.DIR.1SG that rain.DIR.3SG
 [OK] ‘I saw that it started raining.’
- b. **Yavor** vidja, che **zavalja**.
 Yavor saw.DIR.3SG that rain.DIR.3SG
 ‘Yavor saw that it started raining.’
 → The speaker observed the raining
 ↗ Only Yavor observed the raining

[Bulgarian]

The results are summarized in Table 1.4.

Matrix person/Embedded ev.	Reportative	Direct
First person	#	first personal
Third person	third-personal	first personal

Table 1.4: Results of the perspective test for Bulgarian: the title column condition is matrix person, the title row condition is embedded evidential, and the cells represent the kind of perspective.

To conclude, the perspective test presents novel evidence that evidentials encode perspective, and that different kinds of evidentials (such as reportative and direct) encode different perspectival properties.

1.3 Chapter 4: The syntax of light attitudes

1.3.1 Overview

Chapters §4 and §5 offer a formal framework for representing the functional attitude paradigm at the syntax-semantics interface within Generative Grammar. The main syntactic proposal in Chapter §4 consists in the introduction of a generic syntactic

projection to host all functional attitudinal phenomena, as opposed to unrelated projections dedicated to each of the phenomena, such as EvidentialP, LogophoricP, etc. I label this projection *cP*, a label first proposed by de Cuba (2007) (see more recently de Cuba, 2017), in view of a number of properties it shares with *vP*. *vP* is responsible for the argument structure of the main verb, hosting an agent in its specifier. Since *vP* takes part in the syntactic construction of event structure, the *v* head discharges a thematic role to its specifier that represents its role in the event described by the main verb. I call functional attitudes *light* attitudes, and propose that they also discharge a thematic role to their specifiers, such as ATTITUDE HOLDER, in the case of communicative light predicates, and EXPERIENCER, in the case of perceptual light predicates — the same roles as for lexical attitudes assigned by *v* to its specifier.

The concept of a *cP* projection is theoretically appealing not only because it can easily capture the phenomena discussed in Chapters §2 and §3, but also because it creates symmetry in the basic syntactic projection spine. The minimal syntactic representation of a sentence is currently viewed as consisting of two parts, an event part, which concludes with *vP*, and a clausal part, which ends with CP:

$$(26) \quad [\text{CP} [\text{TP} [\text{vP} [\text{VP}]]]]$$

My proposal allows for symmetry between the event layer and the clausal layer of the sentence:

$$(27) \quad [\text{cP} [\text{CP} [\text{TP} [\text{vP} [\text{VP}]]]]]$$

This proposal provides a unified account of different morphosyntactic manifestations of evidentials, which is further motivated by the fact that they are interpreted with scope higher than other propositional operators (such as negation, modals, see §1.3.2.1). It also allows for lexical and functional attitudes to co-occur in the same sentence.

1.3.2 Summary of new tests and data

1.3.2.1 Testing for wide scope

This test repurposes some of the data introduced in the test for modals (§1.1.2.1), but this time, to inform a different question: that of the syntactic position of evidentials. More data are added to test also the interaction between modals, evidentials, and negation. If an evidential outscopes all operators that are already known to be high in the syntactic tree, then it must occupy a projection higher than any of them. This test is not fully conclusive, since there could be in principle some sentential operator that might outscope evidentials and warrant higher structure. Yet given the lack of evidence for such operator for the time being, the results of the test support the hypothesis described above.

Sentence (28) tests the scope of evidentials and negation — a test introduced by Izvorski (1997). The result is that only possible interpretation is one where the evidential scopes over the negation, even though that’s not the surface scope, and the reverse is shown to be not a possible interpretation (marked with $\neq$):

(28) Evidentials scope over sentential negation:

surface scope: $\neg > \text{REP}$

interpretation: $\text{REP} > \neg$

a. **Ne valjalo.**

not rain.REP

‘Reportedly, it’s not raining.’

= ‘Someone said that it’s not raining.’

$\neq$ ‘Someone did not say that it’s raining.’

$\neq$ ‘No one said that it’s raining.’

[Bulgarian]

The next dataset tests the interaction between epistemic modals and negation in Bulgarian. The first example, (29a), shows that when negation semantically scopes

over an epistemic modal, it also overtly precedes the modal linearly in the syntax. The surface interpretation of (29a) is the only one it has. In order to get an interpretation whereby the modal scopes over the negation, this has to be also linearly the case, as in (29b). This means that in Bulgarian, modals have obligatory surface scope with respect to negation, while evidentials, as shown in (28a), have obligatory covert scope.

(29) Modals and negation without evidentials:

a. **Negation > modal:**

Surface scope: $\neg > \Diamond$

Interpretation: $\neg > \Diamond$

Ne mozhe da vali.

not may subj rain

[OK] ‘It is false that it may be the case that it is raining.’

$\neq$ ‘It may be the case that it’s not raining.’

b. **Modal > negation:**

Surface scope: $\Diamond > \neg$

Interpretation: $\Diamond > \neg$

Mozhe da **ne** vali.

may subj not rain

[OK] ‘It may be the case that it’s not raining.’

$\neq$ ‘It is false that it may be the case that it is raining.’

[Bulgarian]

When we add evidentials, modals, and negation together, (30), the only possible interpretation is that the evidential outscopes both the modal and the negation, regardless of their scope between each other.

All other logically possible interpretations are ruled out. To simplify the exposition, example (30) adds evidentials only to the cases that were not already ruled out in (29).

(30) Interaction between modals, negation, and evidentials:

a. **Evidential + {negation > modal}:**

Surface scope: $\neg > \Diamond > \text{REP}$

Interpretation: $\text{REP} > \neg > \Diamond$

Ne mozhelo da vali.
not may subj rain

(i) [OK] evidential > negation > modal

‘It is **reported** that it **may not** be the case that it is raining.’

(ii) $\neq$ negation > modal > evidential

$\neq$ ‘It is **not** the case that it **may** be **reported** that it’s raining.’

(iii) $\neq$ negation > evidential > modal

$\neq$ ‘It is **not reported** that it **may** be the case that it’s raining.’

b. **Evidential + {modal > negation}:**

Surface scope: $\Diamond > \text{REP} > \neg$

Interpretation: $\text{REP} > \Diamond > \neg$

Mozhelo da **ne** vali.
may subj not rain

(i) [OK] evidential > modal > negation

‘It is **reported** that it **may** be the case that it’s **not** raining.’

(ii) $\neq$ modal > negation > evidential

$\neq$ ‘It **may not** be **reported** that it is raining.’

(iii) $\neq$ modal > evidential > negation

$\neq$ ‘It **may** be **reported** that it is **not** raining.’

[Bulgarian]

To conclude, the results of the test, summarized in Table 1.5, show that in Bulgarian, even though evidentials are linearly restricted to the (structurally lower) position of their host, they still have widest semantic scope, which is syntactically represented as the highest position.

	Modal and neg		REP and neg	REP and neg and modal	
Surface form	$\neg > \Diamond$	$\Diamond > \neg$	$\neg > \text{REP}$	$\neg > \Diamond > \text{REP}$	$\Diamond > \text{REP} > \neg$
Interpretation	surface (N)	surface (W)	inverse (W)	REP-inverse (W)	REP-inverse (W)

Table 1.5: Summary of scope tests for reportative evidentials, modals, and negation in Bulgarian (neg=negation; REP=reportative; W=Wide; N=Narrow)

1.4 Chapter 5: The semantics of light attitudes

1.4.1 Overview

Chapter §5 formalizes the concept of functional (‘light’) attitudes from a semantic perspective. I first lay out a general proposal and motivate the representation of the core evidential meaning as presupposition, and then develop two case studies in detail: functional SAY (e.g. reportative evidentials) and functional PERCEIVE (e.g. direct perceptual evidentials). For each of these two functional attitudes, I first spell out my analysis of their lexical counterparts, which the functional version builds upon. This ensures theoretical consistency and continuity, formally acknowledging a relation between lexical and functional attitudes, while still being able to capture the differences between them.

For example, I propose different kinds of semantic composition for the two kinds of attitudes: lexical *say* combines with predicates (following the de-compositional approach of Kratzer, 2006, developed in more detail in Moulton, 2009), while lexical *see* combines with a definite object (implementing ideas by Kiparsky and Kiparsky, 1970; Melvold, 1991).⁴ These differences are preserved in the functional versions of propositional attitudes and explain formally the sensitivity of embedded clause evidentiality and logophoricity to the type of predicate in the matrix clause.

⁴Only the direct perception meaning of *see* is considered in this dissertation, including the semantics provided in Chapter §5. It remains open for future research whether the Bulgarian and Tagalog verbs for ‘see’ are ambiguous between such readings.

The semantic interpretation of embedded evidentials has proven elusive in the works that have addressed this question. Existing takes on it range from erasing the meaning of embedded evidentials, to suggesting that their meaning is dependent on the embedding verb (more specifically, repeating it). My hypothesis, in contrast, is that evidentials have the same interpretation in embedded clauses as they do in matrix clauses. In addition to being theoretically simpler than the alternatives, it is empirically supported by novel evidence, making correct predictions for the interpretation of evidentials under a wider range of verbs than previously considered in the literature (see §1.4.2.1).

1.4.2 New tests and data

1.4.2.1 The *think*-test: are embedded evidentials interpreted in embedded clauses?

The study of evidentiality in embedded clauses is still in its wake. With most efforts invested in evidential shift Garrett (2001); Sauerland and Schenner (2007); Korotkova (2016), another interpretation, called by Schenner (2010a) EVIDENTIAL CONCORD is much less understood. Works that have noticed it suggest the following three hypotheses.

- (31) Existing hypotheses about the meaning of reportative evidentials in embedded clauses:
- a. H1: it does not have any contribution of its own (Schenner, 2010b; Schwager, 2010)
 - b. H2: it repeats the matrix predicate under which it appears (Korotkova, 2016)
 - c. H3: it somehow reinforces the matrix verb (Matthewson et al., 2007).

These works all test only the interpretation of reportative evidentials under com-

municative verbs and find that the evidential meaning is somehow obsolete. The test proposed here consists in checking the interpretation of evidentials under verbs sufficiently different from the attitudinal meaning of the evidential itself. So, in the case of a reportative evidential, we want to find a matrix verb that grammatically allows its use, such as *think* (see §1.2.2.1), but does not overlap in meaning like communicative predicates do.

The predictions of the *think*-test for each of the three hypothesis above is:

- (32) a. no-interpretation: the reportative evidential will not be interpreted under *think* just as it is not interpreted under *say*
- b. repetition: the evidential will change its matrix lexical meaning to match the matrix predicate
- c. harmonic support: not clear

The test is illustrated here from Bulgarian. The result is that the contribution of the reportative evidential is visible under *think*, and it is the same as the one observed in matrix clauses. This explains why it seems to disappear under *say* — the meaning of the lexical predicate is too similar to that of the functional one.

- (33) Yavor misli, che zavaljalo.
 Yavor thinks that start.rain.REP
 ‘Yavor thinks that it started raining (he said so).’

Neither of the three hypotheses predicts this result. Furthermore, none of them consider or predict the interpretation of other evidentials. The predicate test (§1.2.2.1) and the perspective test (§1.2.2.2) show that direct evidentials have both different distribution and different interpretation in embedded clauses.

Chapter 2

The nature of evidentiality

EVIDENTIALITY has been broadly defined as a grammatical category that encodes the source of evidence for a proposition (sometimes called also the SCOPE PROPOSITION) (Chafe and Nichols, 1986). Being a functional category, as opposed to a lexical one, it contains a closed set of items. Section §2.1 presents a brief overview of the typologically attested members of that set.

In §2.2, I introduce the prevailing existing views on the nature of evidentiality. According to one (§2.2.1), evidentiality is a sub-category of epistemic modality, while the opposing view asserts that evidentiality is a category in its own right (§2.2.2). While this debate spans multiple theoretical frameworks of linguistic inquiry, I focus here on the arguments and analyses of theoretical accounts within Generative Grammar.

This is followed by a discussion of existing (§2.3.1) and new arguments (§2.3.2) against the current views, which motivate the need for a new conceptual idea of the nature of evidentiality.

Finally, in §2.4, I outline the conceptual proposal that will be pursued in the rest of the dissertation: that evidentials are functional propositional attitudes.

2.1 The typology of evidentiality

Typological classification of what kind of sources of information get functionalized as evidential markers was provided as early as Willett (1988). His findings are represented in Fig. 2.1, which shows that functional evidential markers split into two major kinds: directly attested by the speaker of the evidentially marked utterance, and those marking indirect evidence.

Not all languages realize all the categories shown in this scheme, and they can realize different levels of abstraction. For example, many languages mark only generic direct evidence, which covers both visual, auditory, and other kind of sensory evidence, but without specifying them. Some languages distinguish between visual, auditory, and potentially other sensory evidence, or just visual *vs* other. In the same way, in terms of indirect evidence, some languages encode a generic indirect that includes both reported and inferred meanings (and potentially other, more general indirect evidence meanings), while others have distinct morphological markers for such meanings. For example, Tuyuca has an elaborate system that includes a direct visual (34a) and a direct auditory (34b) evidential, as well as a number of indirect evidential markers: indirect from results, (34c), an indirect from reasoning, (34e), and a reportative (34d).⁵

(34) Tuyuca evidentials:

a. *díga apé-wi*

‘He played soccer’. (I **saw** him play.)

b. *díga apé-ti*

‘He played soccer’. (I **heard** the game and him, but I didn’t see it or him.)

⁵It is notable that the indirect markers *yigi* in (34d) and *hiyi* in (34e) seem to be morphologically composite, based on the indirect marker *yi* in (34c), but this is not discussed by Barnes (1984) and is thus open for further research.

- c. dīga apé-**yi**
‘He played soccer’. (I have **seen evidence** that he played: his distinctive shoe print on the playing field. But I did not see him play.)
- d. dīga apé-**yigi**
‘He played soccer’. (I obtained the information from **someone else**.)
- e. dīga apé-**hiyi**
‘He played soccer’. (It is reasonable to **assume** that he did.)

[Tuyuca] Barnes (1984): 257, (1)-(5)

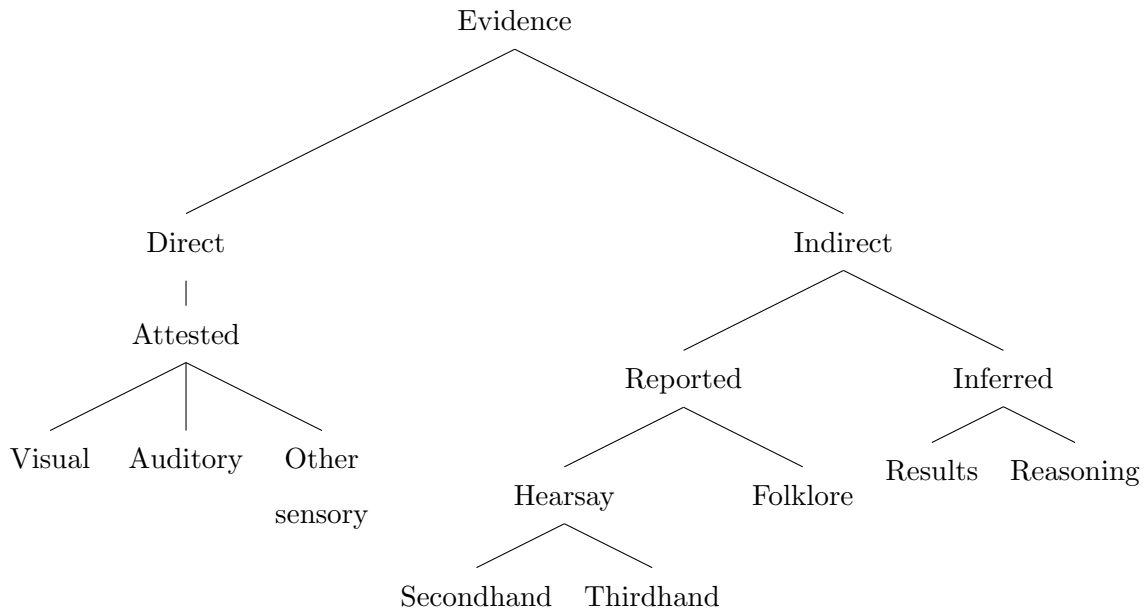
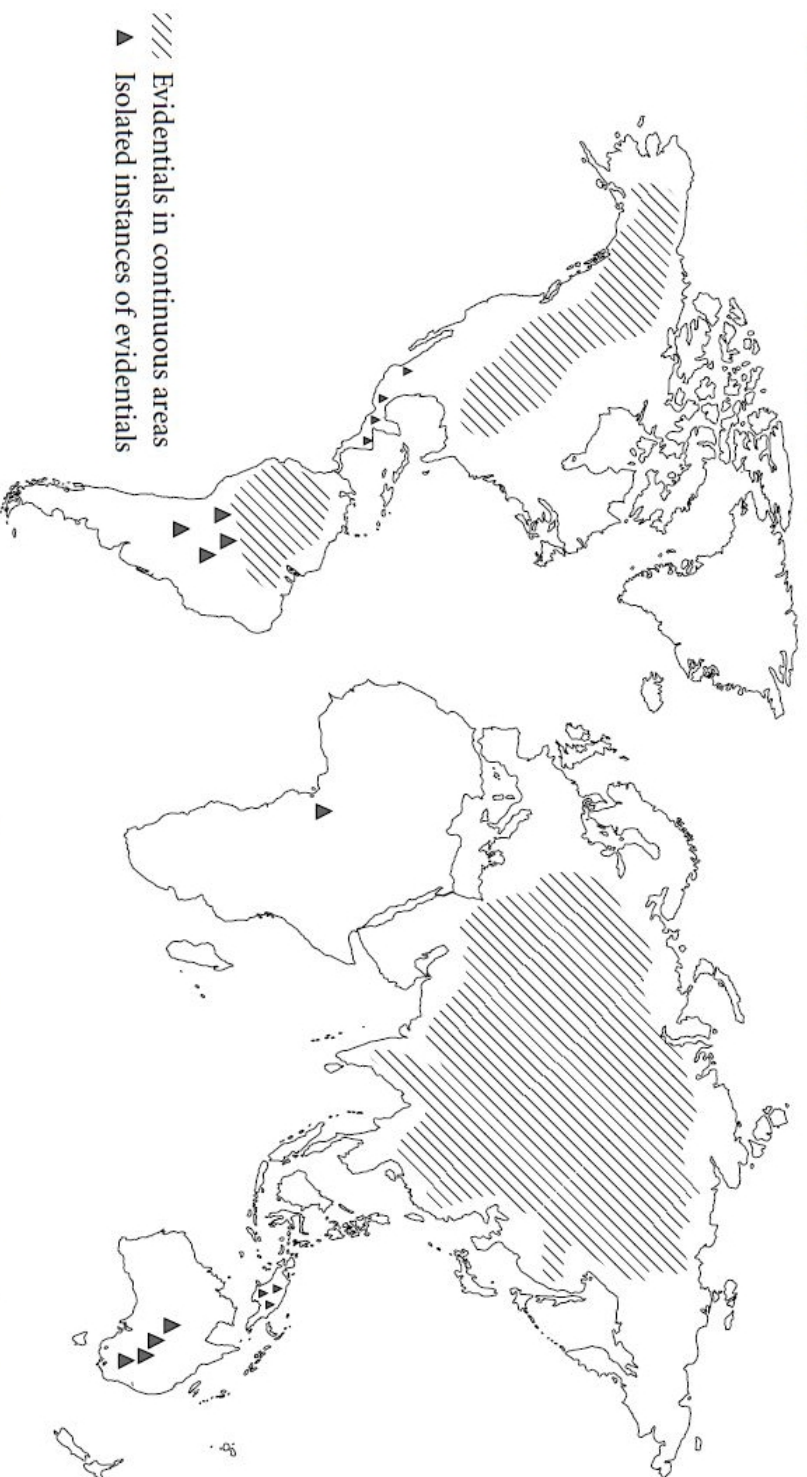


Figure 2.1: Typological inventory of functional evidentials, represented from Willett (1988): 57, Fig. 1

The typology of evidentials of Willett (1988) is based on about 50 languages, and is later confirmed and elaborated by a more comprehensive typological study of over 500 languages in Aikhenvald (2004), which is represented on the map in Figure 2.2.⁶

⁶Inferred is also called INFERENTIAL, and sometimes CONJECTURAL. Sometimes, these labels are used for either the ‘results’ or ‘reasoning’ kind. See AnderBois (2014) for discussion of the labels and suggestions for better labels.

Evidentials Worldwide: Areal Distribution



NOTE TO THE MAP: The Purpose of this Map is to give a rough picture of the loci of major concentration of evidentials throughout the world. It is schematic because of the lack of precise information in many instances, and debatable interpretations of existing systems. A more precise map can only be done once we learn more about the types of systems in numerous languages of South and North America, Mexico, Eurasia (especially Tibeto-Burman speaking area), New Guinea, and Africa.

Figure 2.2: Map of the distribution of languages with evidential marking in the world, by Aikhenvald (2004): p. 302. Reproduced with the consent of the author.

Aikhenvald (2004) classifies languages with functional evidentials into the following types, based on how rich their inventory is: two, three, or four. She notes that evidential inventories with five or more items are attested but very rare, which delineates the cross-linguistically attested markings of evidentiality as a closed class grammatical category:

- (35) a. Two choices:
- (i) first hand vs non-first hand
 - (ii) Non-firsthand vs everything else
 - (iii) Reported vs everything else
 - (iv) Reported vs sensory direct
 - (v) (Auditory vs everything else)
- b. Three choices:
- (i) Direct (or Visual), Inferred, Reported
 - (ii) Visual, Non-visual sensory, Inferred
 - (iii) Visual, Non-visual sensory, Reported
 - (iv) Non-visual sensory, Inferred, Reported
 - (v) Reported, Quotative, everything else⁷
- c. Four choices:
- (i) Visual, Non-visual sensory, Inferred, Reported
 - (ii) Direct (or Visual), Inferred, Assumed, Reported
 - (iii) Direct, Inferred, Reported, Quotative

Aikhenvald (2004)

A few deductions can be drawn about functional evidentials from the typology summarized from Aikhenvald (2004) in (35). One is that direct is less marked than

⁷The label QUOTATIVE in Aikhenvald (2004) corresponds to SECONDHAND in Willett (1988) and REPORTED corresponds to THIRDHAND where in opposition with QUOTATIVE, and to REPORTED when it is the only report marker.

indirect. In the systems with only two choices, we find a marked generic indirect *vs* everything else or a marked reportative *vs* everything else, but not a marked direct *vs* everything else.⁸ Another conclusion is that, in the realm of indirect, reportative is more likely to be specified than inferential. Of the thirteen typological variations in (35), four have a marked reportative with no inferential, all those that have two or more indirects have reportative, but only one has inferred and not reported evidential. These findings can be schematically represented in the following implicational hierarchy in (36), where my ‘neutral’ stands for Aikhenvald’s ‘everything else’, the bracket $>$ means typologically more preferred, and $*/?$ mean typologically not attested or with very little evidence:

(36) Typological preference of evidential markers

a. **Two choices:**

- (i) indirect or reportative *vs* neutral $>$ indirect or reportative *vs* direct
- (ii) *direct *vs* neutral
- (iii) *inferential *vs* direct or neutral

b. **Three choices:**

- (i) Two indirects *vs* one direct or neutral $>$ two directs *vs* one indirect
- (ii) at least one reportative $>$ no reportative

In Willett’s typology, too, the reportative evidential is the one with the most elaborated substructure, as seen in Figure 2.1. The reportative, then, seems to be a top priority evidential for grammaticalization cross-linguistically. It is also the empirical protagonist of this dissertation. However, I have left the fine-grained differences between the subtypes of reportatives for future research due to lack of access

⁸The existence of auditory *vs* everything else is not well attested and not as widely spread as the others in the same category.

to systematic and comprehensive evidence on them.⁹

2.2 Existing views on the nature of evidentials

The nature of evidentials has been disputed in the scientific literature in various frameworks, and the biggest question seems to be whether evidentiality is a category in its own right, that is, a linguistic primitive, or it is a subpart of some other category, such as epistemic modality, tense, or aspect.

The relations between epistemic modality and evidentiality have been debated in the typological literature since at least Bybee (1985); Willett (1988) and formalized within the framework of formal semantics since Izvorski (1997), presented in §2.2.1. Aikhenvald (2004) *et seq.* defends the position that evidentiality constitutes an independent linguistic category. Formal approaches in this line of thought are the so-called ILLOCUTIONARY OPERATOR proposals, such as in Faller (2002) and Murray (2010a). These proposals analyze evidentials as special kinds of illocutionary relations that modify the speech act of an utterance. They are presented in §2.2.2.

2.2.1 Modal approaches

Within the formal semantic literature, Izvorski (1997) marks the beginning of the epistemic modal approaches to the analysis of evidentials, followed by Matthewson *et al.* (2007); McCready and Ogata (2007). I present here Izvorski (1997), which contains the essence of the modal approach, as well as the two major expansions that Matthewson *et al.* (2007) add to the modal hypothesis.¹⁰

⁹While the labels are relatively well defined, I have not found clear enough morphological evidence that these meanings are indeed encoded separately either cross-linguistically, or within any given language. According to Murray (2010a), Cheyenne has more than one reportative marker, but she only focuses on one of them, without demonstrating the differences between them.

¹⁰One of the reasons why I have not discussed the proposal by McCready and Ogata (2007) is that it is not clear to me whether the evidentials they are studying are functional or lexical.

2.2.1.1 Izvorski (1997): the present perfect as an evidential modal

Discussing data mostly from Bulgarian, Izvorski (1997) claims that the morphology of the present perfect tense (in Bulgarian, and potentially other languages) is ambiguous between an evidentially neutral present perfect tense reading ‘I have come’, as in (37c-i), and an indirect evidential marked aorist reading, roughly equivalent to the English ‘Apparently, I came’, as in (37c-ii), which she labels PERFECT OF EVIDENTIALITY:¹¹

- (37) a. Gel **miş-im**. [Turkish]
 come PERF-1SG
- b. Az **sam doshal**. [Bulgarian]
 I be.1SG come.PPART
- c. Jeg **har kommet**. [Norwegian]
 I have.1SG come.PPART
 (i) ‘I have come.’ (present perfect)
 (ii) ‘Apparently, I came.’ (perfect of evidentiality)

Izvorski (1997): (1)

Izvorski (1997) proposes a compositional account of the perfect of evidentiality derived from the semantics of the present perfect tense and couched within the modal semantics of Kratzer (1991). Kratzer’s framework identifies three components of modal operators in language: the force of the modal (whether the quantification over worlds

This dissertation is only preoccupied with functional evidential markers, and not with evidential interpretations of lexical items such as adverbs (*apparently*) or modals (such as English *must*, see von Stechow and Gillies, 2010 for an evidential approach to it). For a rejection of McCready and Ogata (2007) based on theoretical arguments, see Sauerland and Schenner (2007, 2013).

¹¹Izvorski’s example here is with a first person subject, which may have affected the interpretations she reports. The special status of indirect evidentials and first person are the focus of DeLancey (1997) and Curnow (2002). For example, DeLancey (1997) argues that the use of inferential evidentials with first person in Tibetan carries a mirative reading: the speaker’s surprise. I introduce more effects with person and evidentiality in Chapter §3, Section §3.3.

is existential or universal quantification), the modal base (deontic, epistemic, bouletic, etc.), and the ordering source (a ranking of worlds where the higher ranked worlds are ones more ideal in a contextually determined way). Izvorski (1997) proposes that indirect evidentials are a kind of epistemic modal: the modal force is universal, like that of epistemic *must*, the modal base is epistemic, i.e. the propositions that are known in any given world, as opposed to, say, what is desired or necessary by law, and ordering source ranks worlds based on the reliability of the indirect evidence that the speaker has. The availability of indirect evidence is what separates the indirect evidential from an ordinary epistemic modal: according to Izvorski (1997), having evidence is not necessary for the felicitous use of an epistemic modal, as seen in (38a), while it **is** necessary for the felicitous use of an indirect evidential, as in (39a):

(38) John must have drunk all the wine.

- a. ...but I have no evidence for that
- b. #...but I have no reason for believing that.

Izvorski (1997): (12)

(39) Ivan **izpil** vsichko-to vino vchera.

Ivan drunk.PE all-the wine yesterday

‘Ivan apparently drank all the wine yesterday.’

- a. # But I have no evidence for that.

[Bulgarian] Izvorski (1997): (13)

The proposal is summarized as:

(40) The Interpretation of EVp :

- a. Assertion: $\Box p$ in view of the speaker’s knowledge state
- b. Presupposition: Speaker has indirect evidence for p

Izvorski (1997): (8)

Note that the requirement for indirect evidence is encoded as a presupposition in (40). Izvorski (1997) provides two arguments for that: one from sentential negation and one from conversational negation. The sentential negation test, as in (41), shows that the evidential reading is not within the scope of negation (even though in the linear order it is). This is shown by the infelicitous interpretation in (41b). The only felicitous interpretation is in (41a), where the evidential interpretation is not within the scope of negation.

- (41) Ivan **ne izkaral** izpita.
 Ivan not pass.PE exam.DEF
 a. = ‘Ivan didn’t pass the exam (it is said/I infer)’
 b. $\neq$ ‘It is not the case that {it is said/I infer} that Ivan passed the exam.’
 [Bulgarian] Izvorski (1997): (15b)

Similarly, the conversational negation test in (42) shows that an utterance of the sort of *That’s not true* by an interlocutor (42b) in response to a statement containing an evidential marker (42a) cannot target the evidential contribution, as in (42b-ii) but can only target the proposition that Ivan passed the exam, (42b-i).

- (42) a. Ivan **izkaral** izpita.
 Ivan pass.PE exam.DEF
 ‘Apparently, Ivan passed the exam.’
 b. This isn’t true.
 (i) = ‘It’s not true that Ivan passed the exam.’
 (ii) $\neq$ ‘It is not true that {it is said/you infer} that Ivan passed the exam.’
 [Bulgarian] Izvorski (1997): (16)

Izvorski (1997) discusses the importance of context for the interpretation of the indirect evidential. While she proposes that its semantic force is universal, she clarifies that the interpreted force is variable between weak and strong possibility (but not

certainty), depending on the ordering source, which ranks the possible sources of a report based on their reliability:

depending on the source, EVp can have a variable modal reading, anywhere between weak possibility to necessity, i.e. in its report reading, (1) can mean *I may have come*, *I probably came*, or *I must have come*, (*given what X says*). The more trustworthy X is, the closer to universal the modal interpretation.

Izvorski (1997): 226

To conclude, Izvorski (1997) proposes that indirect evidentials morphologically represented by perfect morphology are epistemic modals that contain a presupposition that the speaker has indirect evidence for the proposition, and their ordering source orders the reliability of that evidence.

2.2.1.2 Matthewson et al. (2007) *et seq*: modals encode source or force

Matthewson et al. (2007); Rullmann et al. (2008); Matthewson (2010, 2012) develop a framework which builds on Izvorski's idea that evidentials are epistemic modals, and also broaden it in terms of theoretical scope and cross-linguistic coverage by departing in two major conceptual aspects from Izvorski (1997): no dependency on present perfect morphology and no quantificational force. The former allows capturing evidentials in the many languages where they are not expressed by perfect or perfect-like morphology, for which a PERFECT OF EVIDENTIALITY approach would be inapplicable, since it postulates a 1:1 relationship between perfect morphology and indirect evidentiality.

One such language where evidentials form a separate paradigm of free morphemes, not related in any morphological or semantic way to aspect or tense, is St'át'imcets (Salish), the focus of study of the Matthewson et al. (2007) *et seq* modal framework. According to Matthewson et al. (2007), St'át'imcets has three evidential markers,

which all mark indirect evidence: *kuʔ* for reports, *kʼa* for inference, and *anʼ* for conjecture. While Izvorski (1997) derives the modal meaning of evidentials from the hypothesis that the present perfect tense has modal uses, the framework of Matthewson et al. (2007) *et seq* asserts that evidentials are modal by their very nature. Thus, Matthewson et al. (2007) advocate a unifying analysis of evidentials of different morphosyntactic representations.

The lack of quantificational force is an innovation by Matthewson et al. (2007) expressed by their theoretical proposal for an expanded definition of the notion of modality, under which modals can encode either quantificational force or evidential source, but not both in any given language. This translates into a typological conjecture that languages are either like English, French, etc. and have what is traditionally recognized as epistemic modals: weak and strong forms like *may* and *must*, respectively, or like Stʼátʼimcets, with only source of information formally encoded and the quantificational force left mostly contextually determined.

As further evidence, Matthewson et al. (2007) claim that in Stʼátʼimcets, modals of any base, not only epistemic, are not lexically specified for strength: that is, there is only one morphologically distinct modal for each base, as opposed to weak-strong pairs. For example, the only deontic modal element in Stʼátʼimcets is *ka*, and the strength of the deontic obligation is determined by context or by explicit clarification in the utterance.

To sum up, the Matthewson et al. (2007) *et seq* framework expands the scope of the modal approach to the nature of evidentiality beyond the present perfect morphology and posits a typological divide in the expression of modality: the source or force opposition.¹²

¹²Bogal-Allbritten (2016) proposes that in Navaho, neither attitude verbs nor modals (including deontic modals) are lexically specified for modal base, which is supplied by a separate element. This may expand the second major idea of Matthewson et al. (2007) presented here, that modals encode either source or force, to a third dimension or cross-linguistic variation: source, force, or base. Alternatively, Bogal-Allbritten’s idea could be consolidated with Matthewson et al. (2007) by

2.2.2 Illocutionary approaches

Faller (2002) argues that the modal hypothesis does not apply to Cuzco Quechua, where evidentials do not carry meanings related to modal necessity or possibility. Faller (2002) also underlines that Cuzco Quechua are not interpreted at the propositional level, where modals are interpreted, but are added after the truth conditions of a sentence are computed. This marks the beginning of the so-called ILLOCUTIONARY OPERATOR approach to the meaning of evidentiality, i.e. analyzing evidentials at the speech act level as opposed to the propositional level. Faller’s proposal is presented in §2.2.2.1.

Another formal illocutionary approach is Murray (2010a), who proposes that Cheyenne evidentials are illocutionary operators and analyzes them as a special type of assertion operators, contributing what she calls NOT-AT-ISSUE ASSERTION. Murray’s proposal covers phenomena similar to those in Faller (2002) but is couched in the inquisitive semantics framework of Groenendijk (2009) (see more recently Ciardelli et al., 2018) and thus will not be discussed in technical detail here, but in §2.2.2.2 I focus instead on those points of it which are relevant for the discussion of the fundamental properties of evidentials and how to approach them.

There are other pragmatic-based proposals on evidentiality, such as AnderBois (2014) and Déchaine et al. (2017). They are not discussed in detail here because, like the other two proposals, they regard evidentiality as a pragmatic phenomenon, and thus most of the arguments against the illocutionary hypothesis discussed in §2.3 apply to them as well.

2.2.2.1 Faller (2002): evidentials as speech act modifiers

Faller (2002) investigates three evidentials in Cuzco Quechua: direct like *-mi* (called BEST POSSIBLE GROUNDS, or *bpg*), inferential/conjectural *-cha*, and reportative *-* regarding evidential source as a type of modal base instead of a separate modal property, along the lines of Kratzer’s 2012a INFORMATIONAL BACKGROUNDS.

si. They are illustrated with the minimal pair examples below. Faller (2002) also discusses the challenges of translating evidentials into English and chooses a notation that separates the scope proposition and the evidential contribution in two lines.

- (43) a. Para-sha-n-**mi**.
rain-PROG-3-MI
p = ‘It is raining.’
EV = speaker sees that *p*
- b. Para-sha-n-**si**.
rain-PROG-3-SI
p = ‘It is raining.’
EV = speaker was told that *p*
- c. Para-sha-n-**chá**.
rain-PROG-3-CHA
p = ‘It is raining.’
EV = speaker conjectures that *p*

[Cuzco Quechua] Faller (2002): (88)

One of the reasons Faller (2002) provides for not analyzing evidential markers in Cuzco Quechua as epistemic modals is that they do not seem to be interpreted at the same level of semantic computation as modals are. For example, evidentials do not interact with propositional operators such as negation and conditionals, but take obligatory wide scope over them, as illustrated below. The example also shows that evidentials attach structurally higher than negation.

- (44) Ines-qa **mana-n/-chá/-s** qaynunchaw ñaña-n-ta-chu watuku-rqa-n.
Ines-top not-MI/-CHA/-SI yesterday sister-3-acc-chu visit-pst1-3
- a. **evidential > negation**
speaker has direct/conjectural/reportative evidence that Ines did not visit her sister yesterday
- b. ***negation > evidential**
* speaker does not have direct/conjectural/reportative evidence that Ines

visited her sister yesterday

[Cuzco Quechua] Faller (2002): 227, (185)

Furthermore, Faller (2002) shows that there are what she calls *pure* epistemic modals in Cuzco Quechua: particles with meaning similar to English epistemic *may* and *must*, which encode quantificational force: *puni* meaning *must* and *man* meaning *may*.¹³ Faller (2002) shows that evidential markers and modal markers are not in complementary distribution in Cuzco Quechua, but can co-occur, as illustrated below. Note further that the evidential marker *mi* attaches syntactically higher (more outward) than the modal marker *man*, i.e. the evidential scopes over the modal.

(45) Para-sha-n-**man-mi**.

rain-prog-3-man-mi

a. **evidential > modal:**

Propositional meaning: ‘It may be raining’

Evidential contribution: The speaker has best possible grounds for believing that it may be raining

b. * **modal > evidential:**

*It may be the case that the speaker has best possible grounds for believing that it’s raining.

[Cuzco Quechua] Faller (2002): 250, (216)

Faller (2002) analyzes evidentials as illocutionary operators that represent functions from speech acts to speech acts. She assumes three components of speech acts within the speech act theory of Searle and Vanderveken (1985); Vanderveken

¹³I do not know if these modals can have non-epistemic readings in Cuzco Quechua, but the fact that they have epistemic readings and can co-occur with evidential markers is further evidence that Cuzco Quechua evidentials are not epistemic modals. This also falsifies the hypothesis of Matthewson et al. (2007), presented in §2.2.1.2, that languages can only have elements that mark either source (evidentials) or force (modals), but not both. More evidence is provided from Bulgarian in §2.3.

(1990a,b): ILLOCUTIONARY FORCE, SINCERITY CONDITIONS, and FORCE STRENGTH. ILLOCUTIONARY FORCE can be assertion, question, command, exclamation, etc. In the case of assertion, it is represented by the notation ASSERT. SINCERITY CONDITIONS ‘require the speaker to have a particular attitude towards p in order for the speech act to be sincere’ (Faller, 2014: 63). In Faller’s notation, this is represented by ‘ $\text{SINC} = \text{bel},(s,p)$ ’, which reads ‘speaker believes p ’. STRENGTH is an abstract notion that represents the mental state of the speaker with respect to the sincerity conditions. It is notated by a discrete integer degree in the range $\{-1, 1\}$. In the case of what Faller (2002) calls ‘plain assertion’ — i.e. assertion of the type known in languages without functional evidential markers, such as English — the strength is 0, i.e. neutral. This definition of plain assertion of a proposition p is schematized in (46).

- (46) Definition of plain assertion $\text{ASSERT}(p)$
 $\text{SINC} = \{\text{Bel}(s, p)\}$
 $\text{STRENGTH} = 0$

In Cuzco Quechua, evidentials are optional, so utterances can express plain assertion. An example that illustrates this is (47), and (48) represents its illocutionary analysis.

- (47) Para-sha-n.
rain-PROG-3
 p = ‘It is raining’.

[Cuzco Quechua] Faller (2002): 25, (15)

- (48) Analysis of (47):
 $\text{ILL} = \text{ASSERT}_s(p)$
 $\text{SINC} = \{\text{Bel}(s, p)\}$
 $\text{STRENGTH} = 0$

Faller (2002): 25, (15)

Faller (2002) analyzes evidentials as functions from speech acts to speech acts, which means that (48) is the input of the evidential operator. For example, the function of *mi* is to add a sincerity condition of direct evidence and increases the strength from 0 to +1. In an utterance of *p-mi*, the speaker asserts that *p* and believes that the scope proposition *p* is true, just as in plain assertion.¹⁴ The representation of *mi* as a function from speech acts to speech acts is schematized in (49). What *mi* contributes is that the speaker has ‘best possible grounds’ (notated as *bpg*) evidence for *p* (i.e. the most convincing evidence possible in the relevant context), and the increase of strength to +1, as opposed to the plain assertion in (46), which is neutral.

(49) Analysis of the direct-like evidential marker *mi*

ASSERT(*p*)
 SINC={*Bel*(*s, p*)}
 STRENGTH = 0
 →
 ASSERT(*p*)
 SINC = {*bel*(*s, p*), *bpg*(*s, p*)}
 STRENGTH = +1

based on Faller (2002): 25, (17)

Note that with *mi*, the illocutionary force of the speech act is an assertion, much like in evidentially unmarked sentences. The illocutionary force of the reportative *-si*, in contrast, cannot be an assertion, either plain or enriched. Faller (2002) argues that this is so because the sincerity conditions of assertion require that the speaker believe the proposition, while the sentences marked with a reportative evidential do not have such requirement and are felicitous even if the speaker overtly denies the truth of the proposition, as illustrated by the felicity of the following example, where

¹⁴Note that *-mi* is not what makes the proposition asserted, since *-mi* is also felicitously used in questions (Faller, 2002: 128) and that plain assertion exists in Cuzco Quechua, cf. (47).

the first part of the sentence is marked by reportative *si*, and the second part denies the scope proposition of *si*.

- (50) Para-sha-n-**si**, ichaqa mana crei-ni-chu.
rain-prog-3-SI but not believe-1-NEG
p=‘It is raining, but I don’t believe it.’
EV= speaker is/was told that it is raining

Cuzco Quechua, Faller (2002): (158)

As Faller puts it, an utterance containing a reportative evidential does not represent an assertion by the speaker of the scope proposition, but ‘literally *presents* somebody else’s illocutionary act’ (Faller, 2002: 264, italics original). This property of the reportative evidential (but not other evidentials), of not being ‘assertive’, is not unique to Cuzco Quechua: AnderBois (2014) presents data from over twenty languages where the reportative behaves in this way. These include both languages classified as modal (including Bulgarian) and languages classified as illocutionary (such as Cuzco Quechua). This cross-linguistic pervasiveness suggests that non-assertiveness is a fundamental property of reportative evidentials that any analysis should capture.¹⁵

Faller (2002) formalizes this property of reportatives by proposing that *si* is a function from speech acts to speech acts whose output does not preserve the illocutionary force of the input but modifies it to a new kind of speech act, PRESENTATION (notated as PRESENT). The proposal for *si* is represented in (51).¹⁶ The illocutionary force of the speech act resulting from the modification by the reportative marker is PRESENT. The sincerity conditions read that there exists some speaker s_2 , who is different from the current conversational participants (speaker s and addressee/hearer

¹⁵Modal approaches to evidentiality derive this from the fact that modally marked utterances do not entail that the scope proposition is true or that the speaker believes that it is true.

¹⁶Faller (2002) acknowledges this radical transformation as a downside of the proposal, setting apart reportatives from other evidentials, whose illocutionary functions only add to the input, as opposed to replacing (e.g. ASSERT with PRESENT) or removing from it (e.g. the strength relation). This is discussed in more detail in §2.3.2.

h), and who asserted the scope proposition p .¹⁷ The resulting speech act has no strength because it does not represent the utterer’s mental attitude.

- (51) Analysis of the reportative evidential marker *si*
- $$\begin{aligned} \text{ILL} &= \text{ASSERT}(p) \\ \text{SINC} &= \{Bel(s, p)\} \\ \text{STRENGTH} &= 0 \\ &\rightarrow \\ \text{ILL} &= \text{PRESENT}(p) \\ \text{SINC} &= \{\exists s_2 [Assert(s_2, p) \& s_2 \notin \{h, s\}]\} \\ \text{STRENGTH} &= \text{N/A} \end{aligned}$$
- Based on Faller (2002): 200, (167)

An example of a sentence with *si* is given in (52).

- (52) Para-sha-n-**si**
rain-PROG-3-**si**
 p = ‘It’s raining.’
- $$\begin{aligned} \text{ILL} &= \text{PRESENT}(p) \\ \text{SINC} &= \{\exists s_2 [Assert(s_2, p) \wedge s_2 \notin \{h, s\}]\} \end{aligned}$$
- Faller (2002): 27, (19)

In addition to capturing the non-assertiveness of reportative *si*, this analysis also captures the inability of illocutionary evidentials to scope under propositional operators, such as negation or modals: they are computed before evidentials are.

2.2.2.2 Murray (2010): context update

Murray (2010a) studies the evidential system in Cheyenne (Algonquin, Montana), and proposes that evidentials in Cheyenne are, in a typological group with Cuzco

¹⁷PRESENT can potentially modify other speech acts as well, not only assertion. The use of ASSERT in the input of the function in (51) is for convenience.

Quechua presented above, also illocutionary operators. Similarly to Bulgarian and Cuzco Quechua, Cheyenne evidentials outscope propositional operators like negation. Data with negation include examples with sentential negation, as in (53), as well as conversational negation, (54). Example (53) shows that the interpretation of the evidential cannot be within the scope of sentential negation but the negation is necessarily interpreted as part of what is reported.

- (53) É-sáa-némené-he-**sestse** Floyd
 3-NEG-sing-MODA-RPT.3SG Floyd
 a. ✓ ‘Floyd didn’t sing, they say.’
 b. # ‘Floyd sang, they didn’t say.’
 c. # ‘I didn’t hear that Floyd sang.’

[Cheyenne] Murray (2010a): (3.23b)

Example (54) shows that a conversational challenge by an addressee of the sort ‘That’s not true’ cannot refer to the evidential contribution, as shown by the infelicitous continuation (54-ii).

- (54) A: Méave’ho’eno é-hestahe-**sestse** Mókée’e.
 Lane Deer 3-be.from-RPT.3SG Mókée’e
 ‘Mókée’e is from Lane Deer, I hear.’
 B: É-sáa-ne-hétóméto-hane-∅. ...
 3-neg-AN-be.true-MODB-DIR
 ‘That’s not true. ...’
 (i) É-sáa-hestahe-he-∅ Méave’ho’eno
 3-neg-be.from-MODA-DIR Lane Deer
 ‘... She’s not from Lane Deer.’
 (ii) #Né-sáa-ne-néstó-he-∅.
 3-neg-AN-hear.B-MODA-DIR
 # ‘... You didn’t hear that.’

[Cheyenne] Murray (2010a): 182, (7.22)

Furthermore, the Cheyenne reportative also has the cross-linguistically ubiquitous property of being non-assertive, as shown by the felicity of the Cheyenne counterpart of example (50), where the first part of the utterance is a proposition marked with a reportative, and the second is a speaker assertion of the negation of that proposition.

- (55) É-hoo'kohó-**nese** naa oha ná-sáa-oné'seó mátséstó-he- $\emptyset$
 3-rain-RPT.B.SG and CNTR 1-NEG-believe_{B-MOD_A-DIR}
 'It's raining, they say, but I don't believe it.'

[Cheyenne] Murray (2010a): 58, (3.18)

Another reason Murray (2010a) summons in support of the idea that Cheyenne evidentials are illocutionary operators rather than propositional ones is that they cannot occur in syntactically embedded clauses. This is because they compete with dependent clause marking for the same syntactic slot.¹⁸

While Murray (2010a), like Faller (2002), provides an illocutionary account of evidentials, it does not rest on modifying the sincerity conditions of the speech act like in Faller (2002), but is couched in the framework of inquisitive semantics (Groenendijk, 2009, more recently Ciardelli et al., 2018). She models the contribution of evidentials in terms of how the speaker proposes to update the common ground, called *RESTRUCTURING* the common ground. Murray (2010a) proposes that all speech acts consist of a presentation of the at-issue proposition (where 'presentation' seems to be used in a sense different from that in Faller, 2002), a non-negotiable update, which directly restricts the common ground, and a negotiable update, which restructures the common ground. The negotiable update consists of a proposal to restructure the common ground by restricting it with the at-issue proposition, which is subject to acceptance or denial by the addressee. The non-negotiable update is what Murray (2010a) calls *NOT-AT-ISSUE ASSERTION* and addresses the scope between evidentials and negation by postulating that evidentials contribute meaning at the not-at-issue assertion level.

¹⁸This argument entails that dependent clause marking is also part of the illocutionary system of Cheyenne, which may be problematic for Murray's assumptions. This is further discussed in §2.3.2.

Pragmatically, this translates into a non-negotiable update of the common ground. This new type of assertion is labelled not-at-issue because the speaker intends it as a direct update of the common ground and not as a negotiable update, i.e. it is not up for consideration by the addressee. The contribution of evidentials is proposed to be this kind of non-negotiable update, which means that any evidential contribution is new information, necessarily accepted by the addressee, and cannot be disagreed with.

The differences between direct, inferential/conjectural, and reportative evidentials are represented as follows within this approach. For Murray (2010a), the direct evidential is a proposal to update the common ground with the proposition under the scope of the evidential, and the non-negotiable update is that the speaker is certain that the proposition is true. The conjectural evidential contributes an illocutionary relation that the speaker proposes to add *must(p)* to the common ground, and a presupposition that the speaker does not have direct evidence to the contrary of the at-issue proposition. Murray (2010a) suggests that *must(p)* can be interpreted in terms of the modal theory of Kratzer (1991), where the facts which constitute the evidence for uttering the at-issue proposition represent the ordering source relation, similarly to the analysis of Izvorski (1997) presented above. With the reportative evidential, there is still an at-issue proposition, but there is no negotiable update to the common ground. Instead, the speaker proposes to the addressee “to take note of the at-issue proposition, [...] but for the common ground to remain unchanged. If the proposal is accepted, the new common ground will become the common ground that was reduced by the evidential restriction” (p. 98). The evidential restriction of the reportative is that the speaker heard the scope proposition. Murray’s ‘taking note’ context update seems similar to Faller’s concept of ‘present’ illocutionary relation, and accounts for the non-commitment properties of the reportative evidential, as in (55), in essentially the same way as Faller (2002) does: the speaker proposes to add to the common ground not the proposition itself, but only that the speaker heard

someone say it.

2.2.3 Summary of universal evidential properties

Evidentials have two properties that both modal and illocutionary formal approaches presented above try to capture: (i) not-at-issueness of the evidential contribution, represented by modal approaches as a presupposition and by illocutionary ones as an illocutionary sincerity condition (Faller, 2002) or a ‘non-negotiable update to the common ground’ (Murray, 2010a); (ii) the non-committal property of reportative evidentials in particular. These two properties are known to hold for many other evidential languages as well (AnderBois, 2014) and are considered universal properties of evidentiality that any adequate analysis should be able to account for.

While both streams of proposals presented above capture these two properties, a number of consequences and predictions follow from them, which can help evaluate their theoretical appeal. Some of these are discussed next.

2.3 Questioning the illocutionary-modal dichotomy

Both modal and illocutionary approaches have been challenged in the literature (Portner, 2006; Sauerland and Schenner, 2007, 2013; Korotkova, 2016). Portner (2006) presents principled doubts regarding the efficiency of the theoretical proposal of introducing new speech acts (and more broadly, illocutionary relations) into the generally fixed set determined in traditional speech act theory (Vanderveken, 1990a) for the sole purpose of accounting for evidentiality. Sauerland and Schenner (2007, 2013) show that neither modal, nor illocutionary accounts make correct empirical predictions for evidentials in embedded clauses. Their arguments are presented in §2.3.1.2

Korotkova (2016) doubts that the division of evidential languages into illocutionary *vs* propositional/epistemic ones is warranted. This is discussed in §2.3.1.1. Rejecting a dichotomy view allows for a uniform semantic analysis with morphosyn-

tactically determined variation; such a possibility is also hinted at by [Matthewson et al. \(2007\)](#), who propose that the unifying analysis of evidentials is the epistemic modal approach.

While my goal is also to reject the dichotomy hypothesis, I provide new arguments that neither a modal, nor an illocutionary account is the optimal route to formally capturing the nature of evidentiality.

2.3.1 Existing discussions

2.3.1.1 Korotkova (2016)

[Korotkova \(2016\)](#) evaluates the approaches presented above and concludes that “most of the facts can be accounted for within either of the approaches and that current empirical diagnostics do not in fact distinguish between modal-like and illocutionary elements” (p. 33). She argues that the main data serving as evidence for each approach can be accounted equally well within the alternative approach. This is visible from the discussion in §2.2.3: the two phenomena currently considered fundamental to evidentiality by both approaches are not-at-issueness of all evidentials, and the non-commitment of the reportative in particular. Naturally, then, an illocutionary analysis would be able to capture those same properties in a purportedly ‘epistemic modal’ evidential language.

The not-at-issueness of evidentials, which is evidenced by their impermeability to negation and their non-challengeability in conversation, has been used by modal approaches to argue that the evidential contribution is represented as a presupposition, since presuppositions project over negation. Illocutionary approaches appeal to it to advocate a post-syntactic representation, encoded as sincerity conditions by [Faller \(2002\)](#) (sincerity conditions are calculated after all propositional material is factored in) and as a new type of illocutionary relation that [Murray \(2010a\)](#) calls NOT-AT-ISSUE ASSERTION and defines as discourse-new, non-negotiable information.

This shows not only that each of the analyses offers an account for this property,

but also — crucially — that the interaction of evidentials with negation is a **shared** property between the two purportedly different types of evidentials.¹⁹ Therefore, it is not a sign of a typological divide but rather the opposite.

The other major effort of both approaches is to account for the hallmark property of reportative evidentials: they do not express commitment of the speaker towards the truth of the proposition. It was shown above how each of the two approaches has ways to account for this property. The modal approach posits that the epistemic modal in the semantics of indirect evidentials has variable force, thus it is not inherently strong, and always weaker than assertion. The illocutionary approaches, on the other hand, provide dedicated analyses of the reportative, which are directly motivated by the non-commitment property: the speech act of PRESENTATION for [Faller \(2002\)](#), whose interpretation is that someone else, neither the speaker, nor the addressee, asserted the proposition, or in [Murray \(2010a\)](#) an illocutionary relation of a conversational proposal by the speaker to the addressee to ‘take note’ of the proposition, but without changing the common ground — essentially the same end result as that of [Faller \(2002\)](#) but rendered in update semantics.

To conclude, [Korotkova \(2016\)](#) argues that the main data that serve as evidence for each approach can be accounted within the alternative approach as well, and that positive evidence that would unequivocally show that any given evidential is either illocutionary or modal is not as of yet provided in the literature. While a divide is not inherently impossible, as of present there is not enough evidence in support of it. For that reason, [Korotkova \(2016\)](#) argues, the dichotomy view should be put on hold until

¹⁹A detail of distinction between the modal and the illocutionary approaches, which both [Faller \(2002\)](#) and [Murray \(2010a\)](#) summon as the main argument against a presuppositional analysis, is that presupposition is supposed to be shared information between the speaker and the addressee, while both illocutionary approaches stress that evidentials have discourse-new interpretations. [Korotkova \(2016\)](#) does not address this point, but I get back to it in §2.4.1 and argue that both the arguments against presupposition and those in favor of evidentials as discourse-new information do not hold ground when inspected in more detail.

convincing evidence is found, and work out alternative approaches in the meantime, which could account for the major properties that evidentials across languages share, while bypassing some of the problematic points of each of the two approaches. This is also the goal of the present dissertation.

In the absence of a dichotomy, the question arises whether either of the two approaches can be a satisfactory unifying account of evidentiality. Sauerland and Schenner (2007, 2013) argue that neither of these two approaches is satisfactory when looking at embedded clauses. I present their arguments next and then, in §2.3.2, I provide novel arguments against the dichotomy view, as well as doubts on the applicability and theoretical efficiency of the modal and the illocutionary analysis, showing that both of them make wrong predictions. Then I move on to advance my proposal on the nature of evidentiality in §2.4, which accounts not only for the major properties of evidentials identified by previous works, but also a few that have not been discussed in the literature before and which relate evidentiality to another existing phenomenon in the literature: not modality, but logophoricity.

2.3.1.2 Sauerland and Schenner (2007, 2013)

While Korotkova (2016) shows that both modal and illocutionary approaches capture the same phenomena and do not provide a diagnostic that could unequivocally show a typological divide, Sauerland and Schenner (2007, 2013) raise concerns about the predictions that these approaches make, showing that neither of them can handle new empirical evidence from embedded clauses in Bulgarian.

One of the premises of the illocutionary approach is that evidentials cannot be embedded, so it regards non-embeddability in a given language as a sign that it has illocutionary evidentials, and embeddability — as a sign of epistemic ones. Sauerland and Schenner (2007, 2013) dismiss this approach as altogether inapplicable to languages where evidentials can embed. In §2.3.2 I show that even a relaxed and more

charitable re-interpretation of an illocutionary analysis is untenable.

Modal approaches predict that embeddability is possible, but they also entail that the behavior of modals and evidentials would be parallel in embedded clauses, if they are of the same kind. Sauerland and Schenner (2007, 2013) show that this is not the case, and that in embedded clauses, epistemic modals and evidentials have different properties, namely, modals are always evaluated with respect to the matrix subject (a property assumed to be universal of epistemic modals cross-linguistically, see Stephenson, 2006, 2007), while evidentials are not necessarily so — even in the same language. They provide evidence from Bulgarian, which is also the language that Izvorski (1997) bases the modal analysis on. Example (56) illustrates the interpretation of the existential epistemic modal in embedded clauses in Bulgarian and shows that it obligatorily shifts to the subject, (56a), and cannot be interpreted from the point of view of the speaker, (56b), equivalently to the interpretation of English modals in embedded contexts.

- (56) Nina **kaza**, che Tonko **mozhe** da e vkushti.
 Nina said that Tonko may DA is home
 ‘Nina said that Tonko may be home.’ [Bulgarian]
- a. $\rightarrow$ *may* is evaluated from the point of view of Nina
 b. $\nrightarrow$ *may* is evaluated from the point of view of the speaker

Sauerland and Schenner (2007) discuss the predictions from Izvorski’s proposal summarized in (40) and repeated here as (57), for indirect evidentials in embedded clauses: a sentence of the sort ‘*z* said that *p*-EV’ would essentially mean that the subject, *z*, ascribes epistemic accessibility to the speaker, as schematized in (58).

- (57) The Interpretation of *EVp*:
- a. Assertion: $\Box p$ in view of the speaker’s knowledge state
 b. Presupposition: Speaker has indirect evidence for *p*

(58) z said that p -EV

- a. What it means: z said: “ p ”
- b. Predicted meaning from (57):

Presupposition: The speaker has indirect evidence that p .

Assertion: z said: $\lambda_{x,w} \Box_{y,w}(p(y, v))$ in view of the speaker’s knowledge state

based on Sauerland and Schenner (2007): (18)

Such evidential ascription readings are not only not possible in Bulgarian, but have been argued by Korotkova (2016) to be impossible in languages in general.

On a more charitable reading, the evidential-as-modal analysis could be viewed to predict that the evidential marker represents the matrix subject’s evidence, instead of an ascription of the speaker’s evidence by the matrix subject (the literal application of Izvorski’s analysis). Such an interpretation is more analogous to that of epistemic modals than the one that Sauerland and Schenner (2007) argue against. In §2.3.2, I discuss this option and argue that even that is unsustainable.

To sum up, Sauerland and Schenner (2007, 2013) conclude that neither the illocutionary, nor the modal analysis can handle evidentials in embedded clauses (at least in Bulgarian).

2.3.2 New arguments

Here I present novel arguments, in addition to those already existing in the literature and presented above, to doubt both the purported modal-illocutionary dichotomy as well as the possibility that either of these two approaches is the optimal unifying analysis of evidentiality. I refute some of the premises on which the existing analyses are built, and show that some of the predictions that arise from them are empirically not borne out, sometimes even in the languages that they have set to account for.

2.3.2.1 Occurrence in embedded clauses

Both Faller (2002) and Murray (2010a) base one of their arguments why evidentials in Cuzco Quechua and Cheyenne, respectively, are illocutionary and — crucially — should be analyzed differently from so-called modal or propositional evidentials, on the premise that illocutionary evidentials cannot occur in syntactically and/or semantically subordinate clauses. Here I present empirical and theoretical considerations against this line of reasoning and the use of embeddability as a diagnostic for an illocutionary-favoring analysis.

The first is that both Cheyenne and Cuzco Quechua **do** in fact allow evidential markers in embedded clauses, as Murray (2010a) and Faller (2002), respectively, admit. Faller (2002) specifically remarks that examples like the one below are “quite normal” (p. 222), i.e. not exceptional or marked in Cuzco Quechua:

- (59) Marya **ni**-wa-rqa-n Pilar chayamu-sqa-n-ta-**s**
 Marya say-1O-PST1-3 Pilar arrive-PP-3-ACC-SI
q = ‘Marya told me that Pilar arrived’

p = ‘Pilar arrived’

EV = speaker was told by Marya that Pilar arrived, i.e. speaker was told by Marya that *p*

[Cuzco Quechua] Faller (2002): (183b-ii)²⁰

For Cheyenne, Murray (2010a): 69 points out that the restricted use of Cheyenne evidentials in embedded clauses is due to the idiosyncrasies of Cheyenne morphosyntax: evidentials occupy a fixed morphological slot in the Cheyenne verbal paradigm, which is the same slot that what she calls “dependent clausal marking” (also called

²⁰This representation of the example has corrected a typo. In the original version, Faller (2002) labels as *p* the whole complex clause, but then refers to the embedded clause as *p*. That this is a typo can be seen by trying to interpret the evidential contribution if *p* really meant the complex clause: “Marya told me that she herself told me that Pilar arrived,” which is circular. I am grateful to Martina Faller for confirming this in personal communication.

conjunct marking) occupies, i.e. evidentials are in competition with dependent marking for the same slot. Dependent marking is used in relative clauses, conditionals, and clausal complements of some verbs, while matrix clauses, where evidentials are allowed, are in the ‘independent mode’ (sometimes called disjunct). Therefore, dependent constructions do not allow evidentials because they happen to compete for the same morphosyntactic slot, not due to an intrinsic semantic restriction.

However, this is not shown unequivocally for direct evidentials in Cheyenne, since they are, according to Murray (2010a), morphologically null. Murray (2010a) discusses this assumption in a footnote: “it is not clear if there is actually a ‘null’ evidential or if the absence of an overt evidential implicates direct evidence. As far as I know, there is presently no evidence in favor of one of these analyses over another, though these should be distinguishable” (p. 31, fn. [19]).²¹ Murray (2010a) proposes that the illocutionary relation contributed by the direct is that the speaker is certain, based on personal experience, that the scope proposition is true. The ‘certain’ part of this relation is equivalent to the sincerity conditions of plain assertion that the speaker believes that the proposition is true, so this condition is indistinguishable from the alternative option of an absence of evidential marking. What this proposal rules out are cases where the speaker is certain that the proposition is true (i.e. still asserting *p*), but not based on personal experience. These would not be ruled out by plain assertion and thus could serve as a way to tease apart the two options: morphologically null and semantically active direct evidential on the one hand, and the absence of evidential meaning, on the other.

Similarly, it could be the case that independent clauses are marked with (null) independent mood morphology, too, analogously to Murray’s assumption of a null direct evidential marking. Murray (2010a) does not entertain this possibility, but if this is so, it would entail that evidentials and clausal mode markers occupy different

²¹This problem does not hold for Cuzco Quechua, where the direct evidential is morphologically marked, and evidentially unmarked sentences are attested and felicitous as matrix clauses.

slots and thus the impossibility of evidentials to occur with dependent mode would have to be attributed to some other reason.

If it is maintained that evidentials are in complementary distribution with dependent clause marking, then this would entail that the dependent marking is also an illocutionary mood and comes with its own proposal to update the common ground and its own illocutionary relation. If this is so, then the unembeddability of evidentials cannot be attributed to their illocutionary operator status, since dependent clausal marking would also have this status.

The idea that evidentials are morphosyntactically, and not semantically restricted in embedded clauses in various languages is entertained also cross-linguistically by Korotkova (2016) and Aikhenvald (p.c.). Therefore, as Korotkova (2016) also concludes, there may be no need for a **semantic** explanation of the occurrence or lack of occurrence of evidentials in embedded clauses. That is, whether evidentials are or are not allowed in an embedded clause tells us little about their semantics.

This means, at best, that languages that do not allow embedded evidentials are simply not informative, as opposed to providing negative evidence against a compositional semantic account of evidentiality. It could also mean that the premise that illocutionary evidentials cannot occur in embedded clauses cannot be sustained in its strongest formulation (in which it is often quoted or represented), because then Cheyenne and Cuzco Quechua, which are the languages that motivated the illocutionary hypothesis, would not qualify as illocutionary evidential languages, and the analyses proposed for them would not apply to them, let alone be extended to other languages.

Investigating what interpretations embedded evidentials have when they **do** embed, on the other hand, can inform their semantics. Thus, my next argument comes from a hypothetical relaxed formulation of the embeddability argument. Let's entertain the idea that illocutionary evidentials may also embed, but they must still have some qualitatively different properties from propositional/epistemic ones, for

example, a systematically different interpretation that would warrant a typological split: propositional evidentials would be necessarily interpreted in the scope of the matrix verb, while illocutionary evidentials would either not scopally interact with the matrix verb at all, or they would outscope it.

The following data in (60) (which also showcase the different scope of evidentials and modals in embedded clauses, to be discussed further in §2.3.2.3) show that this prediction is not borne out for supposedly propositional/epistemic evidential languages like the archetypal case, Bulgarian (Izvorski (1997), see again §2.2.1.1): the evidential is not in the scope of the matrix attitude verb in the sense that it is part of the subject’s attitude, because it is felicitous in a context where the subject’s original words did not involve evidential marking, as in (60b). This contrasts with modals, whose use in an embedded clause is infelicitous if they were not part of the original utterance, as in (60a), i.e. they are necessarily interpreted in the scope of the matrix attitude predicate.

(60) General context: Krisko is with Yavor while Yavor is talking on the phone with Nina. Yavor asks her: “Where is Tonko?” She replies: “*Tonko e vkushti*” ‘Tonko is home’ (i.e. no evidential and no modal marking). Then Krisko asks Yavor: “What did she say?” Yavor says:

a. #Nina **kaza**, che Tonko **mozhe/tryabva** da e vkushti.
 Nina said that Tonko may/must DA is home
 ‘Nina said that Tonko may/must be home.’

b. Nina **kaza**, che Tonko **bil** vkushti.
 Nina said that Tonko is.REP home
 ‘Nina said that Tonko is home.’ [Bulgarian]

The exact same interpretation as in (60b) is shown to be available in Cuzco Quechua, and Faller (2002) highlights that it is not some outlier example but is “quite normal” (p. 222).

- (61) Marya **ni**-wa-rqa-n Pilar chayamu-sqa-n-ta-s
 Marya say-1O-PST1-3 Pilar arrive-PP-3-ACC-SI
q='Marya told me that Pilar arrived'
p='Pilar arrived'

EV = speaker was told by Marya that Pilar arrived, i.e. speaker was told by Marya that *p*

[Cuzco Quechua] **Faller** (2002): (183b-ii)²²

Faller (2002) clarifies that this interpretation means: “the original speaker of *p* is taken to be the explicitly mentioned Marya” (**Faller**, 2002: p. 222).²³ This means that what Marya said is *p* (i.e., “*Pilar chayamusqanta*”), not *p*-REP (i.e., “*Pilar chayamusqantas*”), which makes her example parallel to the Bulgarian one in (60b).

Murray (2010a), citing **Leman** (1980), mentions that clausal complements of certain classes of verbs, such as communicative verbs (e.g. ‘say’) and cognitive predicates (e.g. ‘know’) are in the morphologically unmarked “independent” mode, where the slot occupied by evidentials is not blocked, and they can be used. However, she does not provide an example with communicative verbs, which is the verb that existing works on evidentiality focus on and would allow comparison with Cuzco Quechua (61) and Bulgarian (60b).²⁴

Finally, a crucial assumption for both illocutionary analyses considered here, **Faller** (2002) and **Murray** (2010a), is that illocutionary content cannot be embedded and therefore syntactic unembeddability of evidentials signals illocutionary level of representation. However, in other, long-existing theories, speech acts are embeddable, e.g. **Hooper and Thompson** (1973) and many other works on main clause phenomena

²²This example is adjusted to correct a typo in the original, see footnote [20] for the details.

²³See previous footnote. I have corrected what *p* stands for in the example based on the discussion in the body text in order for the quote cited here to properly match what the example shows. The correction was approved by Martina Faller in personal communication.

²⁴In personal communication, Sarah Murray rejects this claim but was not able to provide the relevant ungrammatical examples, either. If this is the case, it supports the conclusion that the restriction on embedded evidentials in Cheyenne is not semantic but morphosyntactic.

(see volumes Haegeman, 2010, 2012 for overview and references), see recently Krifka (2014), as well as works on evidentiality in particular, such as Garrett (2001) and Korotkova (2017). Garrett (2001) proposes that evidentials in Tibetan are illocutionary in that they are dependent on assertion, but he also shows that they embed. His analysis is that they embed only in environments which involve embedded illocutionary acts, namely assertion. Krifka (2014) also provides a semantics for embedded assertion, which Korotkova (2017) applies to evidentiality. Thus once again, the unembeddability of evidentials in any given language is not evidence for an illocutionary level of interpretation.

In summary, the discussion here shows that embeddability is not a diagnostic that can tease apart ‘illocutionary’ from ‘propositional’ evidentials, neither in its strong formulation (that illocutionary evidential languages do not allow evidentials in embedded clauses at all), nor in a relaxed formulation (both illocutionary and propositional languages allow evidentials in embedded clauses, but with different interpretations). What is more, the discussion here showed that ‘illocutionary’ and ‘propositional’ evidential languages allow the same interpretation of embedded evidentials.

These findings once again call for seeking a unifying analysis that accounts for the shared properties of evidentials across a number of genetically and areally unrelated languages, and this is my goal in the rest of this dissertation. But even if there is no typological dichotomy warranting two parallel analyses, could it be that either one can be settled as the unifying analysis? The discussion here questioned one of the crucial arguments of the illocutionary analyses: (un)embeddability. It also showed that this argument is problematic for a definition of ‘illocutionary’ based on unembeddability, but not if theories of embedded speech acts are factored in. Next, I present consolidated empirical and theoretical arguments that question the optimality of either of the illocutionary approaches over a principled (not necessarily modal) propositional account — even with respect to the languages that they were meant to account for.

2.3.2.2 Illocutionary analyses

In addition to the arguments presented above, there are theoretical and empirical points to consider against adopting either [Faller's](#) or [Murray's](#) illocutionary analysis across the board as the unifying analysis of evidentials.

There are a number of empirical arguments in favor of a propositional (but not modal) over illocutionary analysis that are presented for languages other than Cuzco Quechua and Cheyenne in the following chapters. Here I draw attention on details about these two languages that question the applicability of an illocutionary approach even to them. This makes the thesis that a 'propositional' analysis, that is, one at the syntax-semantics level (not restricted to modality), is preferred over one realized at a post-syntactic, pragmatic level.²⁵

One consideration is that in Cheyenne, morphologically overt evidentials show syntactic agreement in various features with an argument of the verb [Murray \(2010a\)](#).²⁶ For example, in the case of transitive verbs, the agreement follows the person hierarchy rules of the language (see [Murray \(2010a\)](#): 24, Fig. 2.2 for more information). Thus, they behave like syntactic elements interacting with other syntactic elements, not like post-syntactic operators independent of the content of the utterance. Furthermore, evidentials differ in terms of which features they agree in. The reportative evidential agrees in animacy, person, number, and obviation, and obeys the person hierarchy. The inferential/conjectural evidential marker agrees in animacy only, and

²⁵In Generative Grammar, which the modal and illocutionary analyses cited here are based on, it is assumed that semantics feeds off syntactic structure, and that pragmatics is subject to rules of conversation independent of that structure. This is why I refer to illocutionary and other pragmatic-based analyses as post-syntactic.

²⁶According to [Murray \(2010a\)](#), morphologically unmarked sentences are interpreted as marked by a phonologically null direct evidential. If all evidentials in Cheyenne are morphologically complex, consisting of at least an evidential root and agreement, it is not clear why the null direct does not have at least overt agreement. This suggests that Cheyenne may be of the 'reportative, inferential (etc. indirect) vs everything else/neutral' in the taxonomy of [Aikhenvald \(2004\)](#).

overrides the person hierarchy. In this the inferential/conjectural evidential marker patterns with the negation marker in Cheyenne, which Murray (2010a) considers a propositional and not an illocutionary operator. Could it be that some evidentials in Cheyenne are propositional, while others illocutionary? In addition, evidentials in Cheyenne are realized in different parts of the verbal functional morphosyntax: the reportative is a suffix, while the inferential/conjectural is compositionally complex. Morphologically, it is an interfix comprising of three morphemes: a prefix, which is what Murray (2010a) glosses as **the** conjectural morpheme, and two suffixes: animacy agreement and a polar question marker.²⁷ The propositional negation marker in Cheyenne is also a prefix, like the inferential/conjectural evidential and unlike the reportative. This suggests that evidentials in Cheyenne do not form a morphosyntactic class: the inferential/conjectural evidential patterns with propositional operators and is semantically compositional (Murray, 2010a explicitly acknowledges this, p. 99, fn. [4]; p. 102).²⁸ What they share, however, is that they all interact with syntactic elements in the sentence, suggesting that none of them are fully ‘illocutionary’.

In Cuzco Quechua, empirical evidence against an illocutionary account comes from evidentials in complex clauses. It was clarified above that Cuzco Quechua (and potentially Cheyenne, see fn. [24]) allow evidentials in embedded clauses, which is unpredicted by an illocutionary approach in its strongest formulation. Now I draw attention on Faller’s observation that evidentials have scopally ambiguous interpretation in those cases: the reportative evidential in example (62) has two attested interpretations: a matrix scope, (62a), where the evidential scopes over the predicate in the matrix clause only, yielding the interpretation that it was reported to the speaker what Marya said (i.e. the speaker did not have direct evidence of the saying), and an embedded scope, which gives rise to a bleached reading of the evidential since

²⁷Murray (2010a) does not specify whether the prefix has any other use in the language.

²⁸Murray (2010a) does not provide information on epistemic modals in Cheyenne. It would be interesting to compare the inferential/conjectural evidential — which she later analyzes as involving an epistemic *must* relation — to epistemic modals.

it overlaps with the meaning of the matrix verb.²⁹

- (62) Marya **ni**-wa-rqa-n Pilar chayamu-sqa-n-ta-**s**
 Marya say-1O-PST1-3 Pilar arrive-PP-3-ACC-SI
 p='Marya told me that Pilar arrived'

a. **Matrix scope:**

EV = speaker was told by someone else that Marya told the speaker that
 Pilar arrived

b. **Embedded scope:**

EV = speaker was told by Marya that Pilar arrived

[Cuzco Quechua] **Faller** (2002): (183b)

Faller (2002) does not explain how the same morpheme, whose meaning is derived at a post-syntactic level of interpretation, after the syntax and semantics of an utterance are computed, allows these two readings. An illocutionary approach may resort to pragmatic principles to resolve the ambiguity. But the ambiguity may well be rooted in the syntax schematized as follows:

- (63) a. Representation of (62a):

[_{CP1} Marya niwarqan [_{CP2} Pilar chayamusqanta] **s**]

- b. Representation of (62b)

[_{CP1} Marya niwarqan [_{CP2} Pilar chayamusqanta **s**]]

A look at how the same two interpretations arise in Bulgarian provides support for the idea of a syntactic explanation along the lines of (63). Bulgarian, like Cuzco Quechua, allows both readings (62a) and (62b), but (having a non-dedicated form of a reportative) represents them overtly in different positions: in the matrix clause (64a)

²⁹This reading, sometimes called EVIDENTIAL CONCORD since **Schenner** (2010a,b), is attested in a number of other languages as well, including so-called 'epistemic/propositiona' languages like German, Bulgarian, and St'át'imcets. It is discussed in more detail and derived in §5.1.2.

and in the embedded clause (64b), respectively, suggesting a structural explanation of the Cuzco Quechua ambiguity along the lines of (63):

- (64) a. Maria **kazala**, che Pena zaminava.
 Maria said.REP that Pena leave.PRES.3SG
 ‘I was told that Maria said that Pena was about to leave.’
 b. Maria kaza, che Pena **zaminala**.
 Maria said.DIR that Pena left.REP
 ‘Maria said that Pena left.’ [Bulgarian]

Another argument against the illocutionary analysis revolves around the motivation of the novel formal machinery introduced by the proposals: new speech acts and a new kind of operator (what Faller calls ‘a function from speech acts to speech acts’, p. 168 and elsewhere) by Faller (2002) and the concept of NOT-AT-ISSUE ASSERTION by Murray (2010a).

There are a few conceptual problems with the PRESENT speech act. Some are noted by Faller (2002) herself: for example, she acknowledges that the analysis of different evidentials in Cuzco Quechua are not equivalent, but the reportative is somewhat special. While the other two evidentials preserve the original speech act and sincerity conditions that they are a function of, and only add something to them (see again the analysis in §2.2.2.1, e.g. in (49) for the direct evidential), the speech act that she introduces to capture the reportative evidential is an atypical move for standard speech act theory and, as she calls it, “destructive” (p. 200), in that it does not preserve any of the original speech act’s properties. What is meant by ‘original speech act’? Let’s recall the proposal on the reportative, repeated here. In Faller (2002), evidentials as illocutionary operators are analyzed as ‘functions from speech acts to speech acts’, that is, they modify an existing speech act of the current speaker asserting the proposition and believing it, into a presentation speech act, in which someone else asserted the proposition (and perhaps believed it). But when and how did the (current) speaker assert the proposition? How is that practically/conversationally

achieved (i.e. a conversational move having two speech acts in one utterance) or technically achieved (what gives rise to a speaker assertion in the first place, so that it can then become the argument of the evidential illocutionary operator)?

(65) Analysis of the reportative evidential marker *si*

ILL = ASSERT(*p*)

SINC = {*Bel*(*s*, *p*)}

STRENGTH = 0

→

ILL = PRESENT(*p*)

SINC = { $\exists s_2[Assert(s_2, p) \& s_2 \notin \{h, s\}]$ }

STRENGTH = N/A

Based on Faller (2002): 200, (167)

Recall finally that the fundamental argument for the proposal of a PRESENT speech act is to account for the fact that the speaker is not committed to the truth of the scope proposition. If at some point of the interpretation of the sentence, there was an assertion of the proposition by the current speaker, this defeats the purpose of PRESENT. Faller (2002) admits that the proposal in (65) is “inelegant” (p. 202) and that “calling *-si* an illocutionary modifier is therefore perhaps a bit of a stretch, a better analysis would certainly be welcome” (*ibid.*). Concluding that none of the conceivable alternatives are without problems (p. 204), she sticks with this analysis in the name of the theoretical appeal of unification with the other evidentials.

Furthermore, the reportative marker *si* can be used in questions as well. The same is true of Cheyenne evidentials. This raises a problem for both illocutionary analyses discussed here: if evidentials represent their own illocutionary acts, we expect that they would be in complementary distribution with other speech acts, that is, we would find mutually exclusive declarative, interrogative, imperative, reportative, direct, conjectural, etc. What we find instead is that evidentials occur in classic

declaratives, questions, and imperatives.³⁰ Both Faller (2002) and Murray (2010a) resort to proposing two levels of illocution — one that hosts evidentials and one that hosts speech acts such as questions — in order to capture that there are reportative declarative and reportative interrogative sentences.

Another issue with the fact that supposedly illocutionary evidentials can occur in questions is that a definition of the reportative that involves the speech act of assertion, either in the input or in the output of the function in (65), cannot work for questions. Faller (2002) considers the drawbacks of giving *si* some other definition, unspecified enough to allow for both assertions and questions. But this is not pursued further and left with no solution as a shortcoming of the proposal. It is a shortcoming of any illocutionary proposal, since this is a theory-internal issue arising from an analysis of evidentials that is dependent on speech act theory. In a propositional analysis, the meaning of the reportative would not be dependent on an ‘input’ speech act and would not be tied to an ‘output’ speech act either. The modal proposals on evidentials do not predict that they would need separate, special account in questions, just as epistemic modals don’t. The approach pursued in this dissertation capitalizes on this benefit of a propositional account, while avoiding the shortcomings of a modal analysis, which are described in §2.3.2.3.

Another theoretical challenge for the illocutionary approaches is their analysis of inferential/conjectural evidentials. These evidentials seem to have meaning indistinguishable from that of epistemic modals and yet are fitted into a post-syntactic level of representation under the assumption that evidentials form a natural class (see above for details on how at least in Cheyenne, the conjectural is morphosyntactically different from the rest). Both Faller (2002) and Murray (2010a) resort to using a modal in their illocutionary analyses of inferential/conjectural evidentials, admitting the necessity of a modal component in their account of these evidentials and offering

³⁰Reportative imperatives are attested in other languages (see Thomas, 2012; AnderBois, 2017 and references therein).

a quite complicated, roundabout analysis of them as modal in an illocutionary way. Faller (2002) treats the Cuzco Quechua conjectural *cha* as being both a member of the set of modals in the language as well as of the set of evidentials (e.g. p. 26, 93, 262-3). This would only be possible if *cha* had two lexical entries, one as an epistemic modal and one as an illocutionary operator, since these are two different classes operating at different levels of representation.³¹ However, Faller (2002) does not assume two lexical entries but rather claims that there is one *cha*, which adds an epistemic modal to the proposition that the speaker asserts. The analysis of *cha* is reproduced below:

(66) Analysis of conjectural *-cha*

ASSERT(*p*)
 SINC={*Bel(s, p)*}
 →
 ASSERT($\Diamond p$)
 SINC = {*Bel(s, $\Diamond p$), rea(s, Bel(s, $\Diamond p$))*}³²
 STRENGTH = -1

Faller (2002): (147)

(67) Parashan-*chá*
 rain-PROG-3-CONJ
q='It's raining'

p= $\Diamond q$
 ILL = ASSERT_s($\Diamond q$)
 SINC={*Bel(s, $\Diamond q$), rea(s, Bel(s, $\Diamond q$))*}
 STRENGTH = -1

[Cuzco Quechua] Faller (2002): (146)

³¹Alternatively, it could be that epistemic modals in Cuzco Quechua are also illocutionary operators, but this possibility is not entertained in Faller (2002).

³²Rea='based on reasoning', s=speaker, h=hearer, bel=believe

Under this analysis, an assertion of ‘*p-cha*’ introduces an epistemic modal component and the evidential component that the belief of ‘possibly *p*’ by the speaker is based on reasoning.³³ Faller (2002): 186 admits that the proposal suffers from the dual nature of the conjectural as both propositional and illocutionary and leads to the following conundrum: either we have to give up the idea that *cha* is an illocutionary operator, or we have to assume that epistemic modals can be interpreted at the illocutionary level. The former runs against the goal of analyzing evidentials as a natural class (unless it leads to regarding all of Cuzco Quechua evidentials as propositional, which undermines main thesis of the illocutionary view). The latter option opens up the possibility of analyzing evidentials as modal **and** illocutionary at the same time, because it separates being modal from being at the propositional level. Finally, Faller (2002) argues that evidentials in Cuzco Quechua are not related to epistemic modality, but in embedded clauses, the scope of inferential/conjectural *cha* patterns with that of epistemic modals, i.e. it is interpreted as part of what Marya said, as shown in (68a), and unlike the reportative, (68b), where the same interpretation is not possible: *si* cannot be interpreted as part of what Marya said.

- (68) a. Marya ni-wa-rqa-n Pilar chayamu-sqa-n-ta-**chá**
 Marya say-1o-pst1-3 Pilar arrive-pp-3-acc-cha
 p = ‘Marya told me that Pilar arrived.’

EV = Marya conjectures that Pilar arrived

- b. Marya ni-wa-rqa-n Pilar chayamu-sqa-n-ta-s
 Marya say-1o-PST1-3 Pilar arrive-PP-3-ACC-SI
 p = ‘Marya told me that Pilar arrived’

EV = ≠ Marya was told that Pilar arrived

[Cuzco Quechua] based on Faller (2002): (183)

³³The second part of the sincerity conditions, $rea(s, Bel(s, \diamond p))$, reads that the speaker believes ‘possibly *p*’ based on reasoning. However, this component seems redundant as it is not clear what a felicitous use of an epistemic modal that excludes reasoning would look like.

To summarize, *cha* is problematic for the illocutionary analysis from many angles.³⁴ It patterns more like epistemic modals and less like (other) evidentials do, and Faller (2002) admits that *cha* “adds meaning to the embedded propositional content” (p. 205).³⁵

The case of Cheyenne is analogous: Murray (2010a) proposes that the “illocutionary relation contributed by the conjectural is the proposal is to add to *must(p)* the common ground” (p. 101), again indistinguishable from the conversational effect of an ordinary epistemic modal.³⁶

This suggests that inferential/conjectural evidentials are, after all, epistemic modals or in any case, indistinguishable from them. As of now, there is no convincing evidence that they are any different and that a modal analysis cannot capture their properties. On the contrary, they seem to pattern quite like epistemic modals and quite unlike other evidentials. They seem to warrant a modal analysis after all, or at least this hypothesis has not been refuted with respect to them specifically. This, however, does not entail that all evidentials are therefore epistemic modals, but instead signals the need to acknowledge the differences between various kinds of evidentials, even if that means having different accounts of different evidentials within the same language. Ignoring the within-language diversity of evidentials has led to a number of issues both for modal and for illocutionary accounts. The issue of modal propos-

³⁴Note further that the analysis of the conjectural *cha* suffers from the same problem raised above for reportative *si*: the assumption that at some point of the proposition was asserted by the speaker as true and believed by the speaker, and only afterwards, ‘based on reasoning’, was it weakened by a modal.

³⁵The fact that *cha* outscopes negation could be considered a potential argument in favor of *cha* being illocutionary. However, Faller (2002): 229 points out that, of the two morphemes that she considers purely modal, weak *man* and strong *puni*, *puni* always outscopes negation, just like *cha*, while *man* can be within the scope of negation. Therefore, outscoping negation is not a conclusive test for a non-modal status of *cha* for Cuzco Quechua.

³⁶Murray (2010a) does not provide a discussion of epistemic modals in Cheyenne, however. A comparison between the Cheyenne conjectural evidential and epistemic modals would be informative.

als is that they use inferentials/conjecturals as a starting point and overgeneralize to other evidential markers (see also [AnderBois, 2014](#) and §2.3.2.4), and the issue of illocutionary approaches is that they force inferentials into a conceptual box motivated mainly by reportatives. Both of these problems arise from the same underlying assumption that all items labelled (functional) ‘evidentials’ should receive a uniform theoretic account. Letting go of this premise allows considering the possibility that inferentials/conjecturals are, after all, epistemic modals, while direct and reportative markers need not be. Testing this hypothesis requires a systematic comparison between inferential/conjectural evidentials and traditional epistemic modals within the same language — something which neither modal approaches do in order to show that they pattern similarly, nor do illocutionary approaches do in order to show that they pattern differently.³⁷ I do not have access to a language with a dedicated inferential/conjectural to do it. For this reason, I am not discussing inferentials/conjecturals in the rest of this dissertation. I focus instead on reportative evidentials, the existing accounts for which were shown to be unsatisfactory, especially a modal one (more arguments are provided next, in §2.3.2.3).

The conclusion from the discussion so far is that no typological divide is warranted, or at least not on a modal-illocutionary basis. Furthermore, an illocutionary analysis of evidentials is empirically and theoretically less preferred than one at the syntax-semantics interface, i.e. a ‘propositional’ account. In what follows, I argue why a modal analysis is not desirable either. This motivates the need for an alternative propositional analysis, but does not appeal to epistemic modality.

³⁷See footnote [35] for some preliminary evidence that the Cuzco Quechua inferential/conjectural patterns like the strong modal, which itself behaves differently from the English strong epistemic modal. This further demonstrates the need for a careful comparison between the properties of modals and inferential/conjectural evidentials within the same language.

2.3.2.3 More on modals and evidentials in embedded clauses

It was discussed in §2.3.1.2 that Sauerland and Schenner (2007, 2013) apply Izvorski's analysis to embedded clauses and conclude that it makes wrong predictions for evidentials in embedded clauses. However, a more charitable reading of the evidential-as-modal analysis is possible, which Sauerland and Schenner (2007) do not consider. It would regard evidentials as more closely parallel to epistemic modals than the version that Sauerland and Schenner (2007) argue against. This option is entertained here. It takes as its starting point the interpretation of modals in embedded clauses and explores what predictions that would entail for embedded evidentials if they are epistemic modals, too.

One prediction under this reading would be that an embedded evidential marker should represent the matrix subject's evidence, instead of an ascription of the speaker's evidence by the matrix subject, as in the Sauerland and Schenner (2007) version presented above. Here I consider this option and argue that even that is unsustainable, because it also makes the wrong predictions for Bulgarian, which is the language that inspired the modal analysis of Izvorski (1997).

Consider the following examples of utterances with a modal and with an evidential marker in a context where the original utterance — which the sentence with a matrix attitude verb is retelling — contained a plain assertion, as in (69), or an epistemic modal, as in (70). These scenarios show that when the subject's original utterance was an assertion of the proposition and contained neither a modal, nor an evidential, as the context in (69) is set up, a modal is infelicitous in the reported speech of that utterance, as shown in the infelicitous (69a), but the use of a reportative evidential is felicitous, (69b).³⁸

³⁸Note that existential and universal force modals pattern together in their acceptability. This rules out the possibility of an internal variation within modality. Thus, the issue with the analysis of evidentials as epistemic modals is not in their treatment as being of a particular force.

- (69) **Unmarked context** (neither modal, nor evidential in the original utterance that is being reported):

Krisko is with Yavor while Yavor is talking on the phone with Nina. Yavor asks her: “Where is Tonko?” She replies (original utterance): “*Tonko e vkushti*” ‘**Tonko is home**’ (i.e. no evidential and no modal). Then Krisko asks Yavor: “What did she say?” Yavor says:

- a. #Nina **kaza**, che Tonko **mozhe/tryabva** da e vkushti.
 Nina said that Tonko may/must DA is home
 ‘Nina said that Tonko may/must be home.’
- b. Nina **kaza**, che Tonko **bil** vkushti.
 Nina said that Tonko is.REP home
 ‘Nina said that Tonko is home.’ [Bulgarian]

While the infelicity of the epistemic modal in (69a) parallels the interpretation of English modals, the felicity of the embedded reportative evidential in (69b) is not predicted by any standard analysis of modality (or the behavior of regular modals in the same language), where embedded modals obligatorily shift to the matrix subject under attitude verbs (see for example Stephenson, 2007 on embedded modals), for the same reason that the infelicity of the embedded epistemic modal in (69a) is correctly predicted. This means that no reconciliation of embedded reportative evidentials and modals is possible under any rendition of reportative evidentials as epistemic modals: any analysis that correctly predicts the infelicity (69a) would incorrectly predict (69b) to be also infelicitous, and vice-versa.³⁹

When the original utterance contains a modal, as in (70), on the other hand, an embedded modal either with an explicit reportative evidential marker (70b), or without (70a), is felicitous, but an embedded reportative alone, (70c), cannot felicitously

³⁹See also (68) for evidence that the Cuzco Quechua conjectural evidential patterns with the general behavior of modals, while the Cuzco Quechua reportative parallels like the Bulgarian one. The missing piece, however, is how embedded evidentials in Cuzco Quechua are interpreted.

represent the modality of the original utterance, as in (70c).

(70) **Modal context** (original utterance contains an epistemic modal):

Krisko is with Yavor while Yavor is talking on the phone with Nina. Yavor asks her: “Where is Tonko?” She replies: “*Tonko **mozhe/tryabva** da e vkushti*” ‘**Tonko may/must be home**’ (i.e. no evidential but epistemic modal). Then Krisko asks Yavor: “What did she say?” Yavor says:

a. Nina **kaza**, che Tonko **mozhe/tryabva** da e vkushti.
 Nina said that Tonko may/must DA is home
 ‘Nina said that Tonko may/must be home.’

b. Nina **kaza**, che Tonko **mozhe/tryabva** da e vkushti.
 Nina said that Tonko may/must.REP DA is home
 ‘Nina said that Tonko may/must be home.’

c. #Nina **kaza**, che Tonko **bil** vkushti.
 Nina said that Tonko is.REP home
 ‘Nina said that Tonko is home.’

[Bulgarian]

The reportative evidential in Bulgarian, then, has a felicitous reading that would not be possible, (69b), as well as a reading that would be incorrectly predicted to be possible, (70c), if it were an epistemic modal.

Furthermore, these examples show that the behavior of evidentials cannot be amounted to some idiosyncratic quirk of Bulgarian epistemic modals, e.g. if Bulgarian evidentials were part of the epistemic modal paradigm, but it were modals that behaved differently from modals in non-evidential languages. If it were so, then (69a) would be felicitous like (69b) is and we could consider the possibility of a true variation within the realm of epistemic modality. However, (69a) shows that Bulgarian epistemic modals embed much like garden-variety epistemic modals, which is also visible in (70a) (the felicitous use of an embedded modal is the same in Bulgarian as it is in English), and (69b) and (70c) show that evidentials in embedded clauses

pattern differently from epistemic modals in Bulgarian.

Finally, if we had a case of genuine variation within modality as opposed to two separate phenomena, then modals and evidentials would be in complementary distribution, just like *may* and *must* are, but (70b) shows that this is not the case, since reportative evidentials can co-occur with *may* as well as with *must*.⁴⁰

2.3.2.4 Interaction of negation with modals and with evidentials

Another point of divergence between epistemic modals and evidentials, in addition to those raised in §2.3.1.2 and in §2.3.2.3, is their interpretation with respect to negation. This is not considered by Sauerland and Schenner (2007) and to my knowledge has not been discussed in the literature before.

Izvorski (1997) mentions (fn. [9]) that in the case of indirect evidentials in Bulgarian, “negation receives lower scope than the modal operator just as it happens in ‘ordinary’ epistemic modals (cf. *John mustn’t be at home*)” (p. 237). However, while evidentials indeed necessarily scope above negation, that is not how modals interact with negation in Bulgarian. Instead, the scope between negation and the modal is overtly determined, and both relations are possible.

In the evidential example with negation from Izvorski (1997), repeated here as (71), the only possible interpretation is one where the evidential scopes over the negation, (71a), even when that is not the surface scope, and the reverse is shown to be not a possible interpretation, marked with $\neq$ in (71b):

- (71) Ivan **ne izkaral** izpita.
 Ivan not pass.PE exam.DEF
 a. = ‘Ivan didn’t pass the exam (it is said/I infer)’
 b. $\neq$ ‘It is not the case that {it is said/I infer} that Ivan passed the exam.’
 [Bulgarian] Izvorski (1997): (15b)

⁴⁰More on the interaction between modals and evidentials, as well as negation and evidentials (which follows next in §2.3.2.4), and all three (evidentials, negation, and modals) is found in §4.1.2.

Epistemic modals, on the other hand, overtly interact with negation in Bulgarian. When negation semantically scopes over an epistemic modal, it also overtly precedes the modal linearly in the syntax, (72a). Note that (72a) has only one interpretation — the surface one — and is not ambiguous. In order to get an interpretation whereby the modal scopes over the negation, this has to be also linearly the case, as in (72b).⁴¹

(72) Modals and negation without evidentials:

a. **Negation > modal:**

Surface scope: $\neg > \Diamond$

Interpretation: $\neg > \Diamond$

Ne mozhe *da* **vali**.

not may *DA* rain

[OK] ‘It may not be the case that it is raining.’

$\neq$ ‘It may be the case that it’s not raining.’

b. **Modal > negation:**

Surface scope: $\Diamond > \neg$

Interpretation: $\Diamond > \neg$

⁴¹ The restrictions on evidentials and modals demonstrated here cannot be due to morphosyntactic idiosyncrasies of Bulgarian *da*-clauses, because the reportative is allowed under *da* (more examples in Nitsolova, 2008; Iliev, 2017):

(i) Context: One parent returns from a school meeting. The other asks: “So what did the teacher tell you about our son?” The other says:

Kaza **da uchel** poveche po fizika.

said *da* study.rep more on physics

$\approx$ ‘[Teacher] said that [son] study more physics.’

[Bulgarian]

If the issue was a morphosyntactic restriction, sentence (i) would not be grammatical, either. Furthermore, example (i) is similar to attested readings of supposedly illocutionary evidentials in Kalaallisut, reported in Bittner (2008), questioning once again the existence of a typological split of evidentiality into propositional and illocutionary.

Mozhe da **ne** vali.
 may DA not rain
 [OK] ‘It may be the case that it’s not raining.’
 ≠ ‘It may not be the case that it is raining.’

[Bulgarian]

To conclude, in Bulgarian, a supposedly epistemic evidential language, modals and negation show surface scope and can scope either under or over negation, while evidentials have covert scope and only have wide scope with respect to negation.⁴² This means that, in addition to the findings of Sauerland and Schenner (2007, 2013) mentioned above about the divergence between epistemic and evidential markers in embedded clauses, such divergence exists already in matrix clauses as well. Therefore, evidentials do not form a natural class with epistemic modals in Bulgarian, as they do not share any of their major properties, and can even co-occur with them.

Compare the findings on the Bulgarian reportative above with the following data with the interaction between negation and various evidentials in St’át’imcets. The following examples show that the reportative *ku7* outscopes negation (73), while both the inferential *k’a* and the conjectural *an’* can scope **under** negation, (74b).

- (73) cw7-**aoz** **ku7** séna7 ku qu7 láti7
 NEG REP COUNTER DET water DEICTIC
 = ‘[I was told] There was **no water** there.’
 ↯ ‘I was **not told** that there was water there.’

[St’át’imcets] Matthewson et al. (2007): (50)

- (74) a. wá7 **k’a/as.an’** i tseqwtsíqw-a
 be INFER/CONJ DET.PL red-DET
 ‘There might be some reds [=red pegs].’
 b. aoz kw-a-s wenácw; **aoz k’a/as.an’** kw s-wá7
 NEG DET-IMPF-3POSS true NEG INFER/CONJ DET NOM-be

⁴²These facts hold also of all other modal bases. This means that Bulgarian evidentials behave differently not only from epistemic modals in particular, but from all modals.

‘That’s wrong. **There can’t be.**’

[St’át’imcets] [Matthewson et al. \(2007\)](#): (54a,c) for *k’a*, (55a,c) for *an*’

This once again shows that (i) different evidentials even within the same language can have different properties; (ii) inferentials/conjecturals might be epistemic modals and structurally in a different position than [other] evidentials, which means they may need to be captured with different accounts (see also [AnderBois, 2014](#) for more arguments towards the same conclusion).

2.3.2.5 [Matthewson et al. \(2007\)](#): source or force

One of the main theses of [Matthewson et al. \(2007\)](#) is that (epistemic) modals in languages are typologically parametrized between encoding either source or force: that is, encoding the source of evidence but no force (where we get an evidential interpretation) or encoding quantificational force but no source (which yields a modal interpretation). They claim that in St’át’imcets, there are no epistemic markers with fixed force, but modality and evidentiality are a fused category encoding only source, while force is fully variable and contextually determined. Thus [Matthewson et al. \(2007\)](#) establish a co-determinant relation between epistemic modality and evidentiality that is quite different from the one put forth by [Izvorski \(1997\)](#) and rejected above, so the counterarguments presented above against the modal view of [Izvorski \(1997\)](#) are not sufficient to falsify the modal view of [Matthewson et al. \(2007\)](#).

As appealing and elegant as the source or force hypothesis looks, a number of counterexamples exist to it, both in terms of evidential languages, as well as with respect to canonical epistemic modality.

One prediction of the source or force hypothesis is that languages that have evidentials cannot have epistemic modals that overtly encode force. This is not borne out, as shown for Bulgarian by [Izvorski \(1997\)](#) and in the data above, and for Cuzco Quechua by [Faller \(2002\)](#) (see again fn. [35] on Cuzco Quechua modals). It does

not seem to hold of St’át’imcets, either: Rullmann et al. (2008) point out that most (‘true’) modals in St’át’imcets have a default universal force, and that a particle *sxek* ‘maybe’ is used to weaken the force to existential.⁴³ Whether the force of modals is semantically variable and pragmatically determined, as Matthewson et al. (2007) claim, or defaults to universal, as Rullmann et al. (2008) claim, the very existence of the necessarily existential *sxek*, i.e. an item with fixed quantificational force, suffices to falsify the source or force hypothesis even with respect to St’át’imcets.

One appealing aspect of the source-or-force hypothesis of Matthewson et al. (2007) is that it provides a theoretical explanation of why so many of the well-known languages, such as Romance, Germanic, etc., do not have functional evidentiality: because they encode force. However, many other languages have modals with fixed force and evidentials (i.e. ‘source’) — which Matthewson et al. (2007) predict to not be possible. Bulgarian is one of them, as seen in §2.3.2.3: modals (epistemic as well as others) with dedicated, morphologically distinct existential and universal quantification exist: *mozhe* for existential and *tryabva* for universal, and they co-exist and can even co-occur with evidentials. Cuzco Quechua, too, discussed in §2.2.2.1, has both evidentials (i.e. source marking elements) and ‘pure’ modals (i.e. quantificational force). This falsifies Matthewson et al.’s hypothesis that (epistemic) modals and evidential markers are in typological complementary distribution, and is likely true of many other languages as well.

A potential alternative reading of the source-or-force hypothesis with interesting predictions could be interpreted as holding only within the realm of modality or of evidentiality, i.e. that there cannot be modals with fixed force and modals with variable force within the same language, regardless of whether the language has evidentiality or not. But this is falsified, too, by Rivero and Simeonova (2014) on Bulgarian and Yanovich (2016) on Old English, who show that variable force modals co-exist with fixed force ones within the same language. The same reading of the source-or-force

⁴³ *Sxek* is also used by Matthewson et al. (2007) in examples with existential force.

hypothesis with respect to evidentiality seems to also be untenable. A major property of reportative evidentials discussed above is the weaker than assertion interpretations that they give rise to and which have inspired the modal analyses to begin with.⁴⁴

To conclude, while [Matthewson et al. \(2007\)](#) formulate a clear proposal with interesting theoretical and typological predictions, implications, and potential extensions, they are not borne out empirically.

2.3.3 Interim discussion

Two prevailing theoretical approaches on evidentiality were presented here, together with theoretical and empirical considerations against them spanning over two dimensions: (i) the view that languages fall into a typological split between ‘propositional’ and ‘illocutionary’ type of evidentiality that each warrant their own unique analysis, and (ii) the idea that either of these two analyses could be the ultimate unifying analysis of evidentiality if there is no split.

Perhaps not one of the considerations presented here, considered in isolation, would be a knock-down argument that cannot be addressed with some patching. One could say, for example, that evidentials are epistemic modals, but not ‘literally’ so but in some way pertaining to a more general notion of modality. One could say that illocutionary evidentials can sometimes be embedded when a speech act is embedded, etc.

One reason why there are no definitive arguments against either approach is that, on a certain level, they are designed as such, because they provide a theoretical paradigm, a way of thinking about evidentiality. Thus, my goal here is not to show that these approaches are impossible — this would be futile, since they can be sus-

⁴⁴According to [Willett \(1988\)](#), both evidential source and ASSERTION STRENGTH are encoded in evidential markers, which is why these two categories, together with another property with possibly modal overtones, CONCEIVED TRUTHFULNESS, are included in his typological study as separate parametric properties of evidentials.

tained with sufficient amendments. Instead I raise the question: is the price to be paid for sustaining them worth it?

The more the analyses are patched, the more doubt this would instil in the theoretical appeal of the original ideas that inspired them. If evidentials are substantially different from epistemic modals/speech act markers with respect to a number of major properties, then what is there to gain by unifying modality/speech act theory and evidentiality in such a way? What is there to learn about the nature of evidentiality from this? What are the theoretical or typological implications and predictions of proposals with such language-specific, local patches? In this chapter, I discussed some predictions that are not borne out. In the next one, I present novel data that are crosslinguistically attested and are not predicted by either of these approaches.

Taken in their entirety, the considerations presented here amass both an empirical and a conceptual challenge to the expressive and explanatory power of these accounts and call for a new conceptual framework for the scientific study of evidentiality. The goal of this dissertation is to offer such an alternative framework, which captures the same major known properties discussed above, as well as the novel observations that have not been presented until now in the scientific literature on evidentiality.

2.4 The proposal: evidentials are attitudes

So far I have only provided negative arguments, i.e. what kind of approaches do not (optimally) capture the nature of evidentiality. I argued against a typological split of evidentials into illocutionary and propositional, as well as against taking either the illocutionary (in any guise) or the modal propositional approaches to be the viable route to capturing the major properties of evidentials.

From now on and for the rest of the dissertation, I turn to a positive proposal of the alternative approach that I advocate to capture the nature of evidentiality.

My starting point towards that goal is to motivate the level of representation of

the alternative paradigm I am about to advance. I defend the view that evidentiality can be analyzed at the syntax-semantics interface, as opposed to the pragmatic level of language (illocutionary approaches). I argue for a propositional analysis, but one that does not pertain to epistemic modality, to the potential exception of inferential/conjectural evidentials, which seem to pattern differently from other evidentials in languages with dedicated markers for such meanings, and seem to be indistinguishable from epistemic modals (as discussed in the previous section left to future research).

I begin by refuting the arguments advanced by illocutionary accounts against the idea that evidentials cannot be encoded as presuppositions. In §2.4.1, I provide new arguments in support of a presuppositional representation of evidentials, which have not been discussed by either illocutionary or modal approaches.

Then in §2.4.2 I outline my conceptual proposal on the nature of evidentiality: that evidentials are functional propositional attitude predicates, such as *say*, *perceive*, etc.

2.4.1 Evidentials contribute a presupposition

Both illocutionary and non-illocutionary approaches to evidentiality acknowledge that evidentials are interpreted at the not-at-issue level. This was presented above and is reviewed and expanded in §2.4.1.1. Modal approaches formalize the not-at-issue status of evidentials by representing them as presuppositions, motivated mostly by the fact that evidentials are impermeable to negation. Illocutionary proposals argue against the presuppositional representation and model the not-at-issue status of evidentials as sincerity conditions of a new kind of speech act (Faller, 2002) or a new kind of assertion, so-called NOT-AT-ISSUE ASSERTION (Murray, 2010a). This also predicts the negation data, but has other implications, too, which illocutionary approaches find superior to those of presupposition and thus worth the price of abandoning a theoretically simple approach that uses the well-established concept of

presupposition and introducing new theoretical machinery.

In the discussion that follows, I show that the presuppositional view — in addition to being theoretically simpler than the alternatives — also makes better empirical predictions under a more detailed look at the interpretation of the evidential contribution.

The main arguments of both Faller (2002) and Murray (2010a) against the presuppositional approach are that (i) presupposition encodes information that is shared between the speaker and the addressee, while evidentials always contribute new information (new to the addressee); (ii) evidentials are not conversationally challengeable. In §2.4.1.2, I revisit both parts of the first argument and show that neither evidentials, nor presuppositions are lexically specified for newness or for sharedness. In §2.4.1.3, I argue against the second premise.

2.4.1.1 Evidentials contribute not-at-issue meaning

There is a general consensus in the literature that evidentials contribute not-at-issue meaning. This has been argued for a number of languages with various morphosyntactic representations, via a battery of tests starting with Izvorski (1997) and refined over the years, see Faller (2006); Murray (2010a); Korotkova (2016). Here I present the main points and add a few more refinements.

The most popular and undisputed test is that of negation, be it sentential or discourse-based: the evidential contribution cannot be targeted by the regular propositional negation operator, as illustrated in (75) from Izvorski (1997) and (76) from Faller (2002), nor by a disagreeing discourse move, as shown in (77) from Murray (2010a), repeated from (54). More on discourse negation follows in §2.4.1.3.

- (75) Ivan ne izkaral izpita.
Ivan not passed.REP exam.DEF
= ‘Ivan didn’t pass the exam (it is said).’
≠ ‘It is not the case that it is said that Ivan passed the exam.’

[Bulgarian], part of Izvorski (1997): (15)

- (76) Pilar-qa mana-n/-s/-cha t'anta-ta mikhu-rqa-n-chu.
Pilar-top not-n/-s/-cha bread-acc eat-pst1-3-chu
= 'Pilar didn't eat bread.'

≠ 'It is not the case that I have direct/reportative/conjectural evidence that
Pilar ate bread.'

[Cuzco Quechua], Faller (2002): (20b)⁴⁵

- (77) A: Méave'ho'eno é-hestahe-**sestse** Mókée'e.
Lame Deer 3-be.from-RPT.3SG Mókée'e
'Mókée'e is from Lame Deer, I hear.'

B: É-sáa-ne-hétómeto-hane-∅. ...
3-neg-AN-be.true-MODB-DIR
'That's not true. ...'

B' É-sáa-hestahe-he-∅ Méave'ho'eno
3-neg-be.from-MODA-DIR Lame Deer
'... She's not from Lame Deer.'

B'' #Né-sáa-ne-néstó-he-∅.
3-neg-AN-hear.B-MODA-DIR
'... You didn't hear that.'

[Cheyenne] Murray (2010a): 182, (7.22)

These are not isolated exceptional cases, as more examples of these sorts are found elsewhere in the literature (see recent discussions in Korotkova, 2016). The findings hold for both dedicated ('illocutionary') and non-dedicated ('propositional') evidentials alike, once again suggesting that the differences between them are not semantic, in addition to the discussions above.

The not-at-issueness of evidentials has been formally captured in a number of ways, as mentioned earlier (§2.2). Izvorski (1997); Sauerland and Schenner (2007) analyse evidentials as contributing presuppositional meaning, Faller (2002) regards

⁴⁵In the original, the infelicitous interpretation of this sentence is provided on page 28.

them as illocutionary operators contributing sincerity conditions (i.e. part of speech act meaning), and Murray (2010a) proposes that they are entirely a new type of not-at-issue meaning, which she calls a NOT-AT-ISSUE ASSERTION. Not-at-issue assertion contributes new information (the ‘assertion’ part of the term), as opposed to presupposition, which is supposed to encode only information shared among the conversational participants, in the form of a non-negotiable update to the Common Ground (the ‘not-at-issue’ part of the term).

I regard evidentials as presuppositions, with Izvorski (1997), Sauerland and Schenner (2007), Matthewson et al. (2007), Şener (2011), and in what follows, I provide novel empirical evidence in support of this view and against existing assumptions that evidentials contribute necessarily new information (§2.4.1.2) and are always non-challengeable (Murray, 2010a; Korotkova, 2016, i.a.) (§2.4.1.3).

2.4.1.2 Evidentials are not specified for newness

The illocutionary approaches, Faller (2002); Murray (2010a), reject the idea that evidentials contribute a presupposition based on the premise that presuppositions always contribute information that is shared among the conversational participants, and evidentials always contribute information that is new to the addressee. The rationale is: “Speakers can usually not assume that it is in the common ground already what type of evidence they have for the sentence they are about to utter.” (Faller, 2002: 117).

But both of these premises are too strong. Starting with the premise that evidentials necessarily contribute information that is new to the addressee, evidence against it exists already in both Faller (2002) and Murray (2010a), and I provide a few novel arguments.

For example, Faller (2002) provides a conversational example of a question and answer that are each marked with the reportative marker *si*. In the question, (78a), the reportative is interpreted with respect to the addressee’s reportative evidence (called

INTERROGATIVE FLIP in Murray, 2010a,b). Thus, it cannot be that the speaker assumes that having reportative evidence is something new to the addressee. On the contrary, such a question only makes sense if the assumption that the addressee has reportative evidence is shared information between the conversational participants. Then naturally, in the answer, (78b), when the addressee is now the speaker, he/she does not assume that it is new to the speaker that he/she has reportative evidence. If evidentials obligatorily provided new information, they would not be felicitous in such a conversation, all the more so in a language where evidentials are optional, as they are in Cuzco Quechua (if they weren't felicitous in a question-answer pair, they could be successfully omitted without loss of grammaticality).

- (78) a. Ima-ta-s Ana Berta-wan wayk'u-rqa-n-ku?
 what-ACC-SI Ana Berta-INSTR cook-PST1-3-PL
 'What did Ana and Berta cook?'

EV = speaker assumes that hearer was told what Ana and Berta cooked

- b. Ana papa-ta-s (wayk'u-rqa-n), tarwi-ta-taq-si Berta.
 Ana potato-ACC-SI cook-PST1-3 tarwi-ACC-CONTR-SI Berta
 'Ana (cooked) potatoes and Berta tarwi.'

EV = speaker was told that Ana cooked potatoes, and speaker was told that Berta cooked tarwi.

[Cuzco Quechua] Faller (2002): (210)

Murray (2010a) discusses similar examples and resorts to the compromise of analyzing evidentials in questions exceptionally as presuppositions (which also entails they are interpreted at the propositional and not illocutionary level — another problem for an illocutionary analysis). In addition to the theoretically unappealing consequences of providing two conceptually different accounts of the same morpheme when it has the same meaning in two different environments, this patch has the paradoxical consequence that the evidential contribution is presupposed also in the answer

— the kind of environment that Murray (2010a) maintains to be necessarily new information.

Murray (2010a) also provides examples showing that a reportative evidential can anaphorically refer to a lexical expression of a report in another sentence within the same conversation, as in (79). In this example, the reportative evidential used by the speaker does not specify a new, unrelated report, but expands on the report already introduced by the previous sentence.⁴⁶

- (79) éšee-va ná-éstsestov-o-∅ Dale. é-h'o'taheva-**sestse** Annie.
 day-OBL 1-speak.to.s.o-1:3-DIR Dale 3-win-REPORTATIVE-3SG Annie
 ‘Yesterday I spoke to Dale. [He (‘he’=‘Dale’) says that] Annie won.’
 [Cheyenne] Murray (2010a): (5.19)

If the evidential introduced necessarily new information, such an interpretation would not be possible, and the evidential in the second sentence would have to be interpreted as unrelated to the reporting event described in the first sentence and referring to a different report event. While Murray does not discuss whether such disjoint interpretation is at all possible, the very existence of the anaphoric interpretation is evidence against a restriction of evidentials to new information.

Furthermore, Murray (2010a) classifies the reportative *sestse* as a secondhand evidential specifically (under the taxonomy of Willett (1988) in Fig. 2.1), which means that the source of the report is always identified (salient) in the discourse. It does not seem possible to me that an individual can be identified as a report source without identifying and making salient some report event. This means that whenever the source is identified (i.e. in the case of *sestse*, always, by definition), the evidential is contributing information that is part of the common ground: both that there was a report and by whom it was. This leads to the paradoxical conclusion that if evidentials only contribute new information, then *sestse* is not an evidential.

⁴⁶This is not an isolated rare case, and Murray appeals to such examples in other places in her 2010a dissertation (e.g. her §2.5.2, as well as in her other work, e.g. Murray (2012, 2017).

Anaphoric or secondhand meanings of reportatives are well attested in a number of other languages (discussed further in §5.1.2), including in Cuzco Quechua (Faller, 2002). The same discourse-anaphoric effect occurs in Bulgarian (showing yet another parallel with supposedly illocutionary languages):

- (80) Ani se obadi. Spechelila konkursa.
 Ani refl called-DIR won.REP contest
 a. ‘Ani called. [she said] she won the contest.’
 b. #‘Ani called. [someone else said] she won the contest.’
 [Bulgarian]

The same holds when one describes a situation that was based on personal experience, i.e. using direct evidentials in natural speech as opposed to isolated sentence examples. Consider the following example, where an eyewitness is telling the story of a road accident:

- (81) Vchera **stanah** svidetel na uzasna katastrofa. Kola i avtobus
 yesterday became.DIR witness of terrible crash car and bus
 se **blusnaha**... Kolata **izhvurcha** ot putya...
 REFL collide.DIR car.DEF flew.DIR from road.DEF
 ‘Yesterday I witnessed.DIR a terrible crash. A car and a bus collided.DIR.
 The car flew.DIR out of the road...’
 [Bulgarian]

There are three direct evidentials in this example, but only the first one introduces new evidential information. Murray’s 2010a view would predict that the second two direct evidentials would be infelicitous in the context of telling one coherent story (even more reinforced by the opening sentence explicitly being ‘I witnessed...’, i.e. there is nothing evidentially new added by any of the direct evidentials), or that they would have to introduce a new story each. But the only felicitous interpretation of

the example is one where the evidentials continue the same story.⁴⁷

To sum up, neither Faller (2002), nor Murray (2010a) show empirical arguments that support their claim that evidentials are obligatorily subject to a newness condition. On the other hand, they provide data that can only be interpreted against this claim. I have further introduced novel data showing that in natural contexts, evidentials do not necessarily provide new discourse information.

Now let's look at the other premise for rejecting the view that evidentials can be represented as presuppositions, that presuppositions **necessarily** contribute shared information:

I take the view that presupposed information should be present in the common ground prior to an utterance. It can be discourse old information, or information that is taken for granted or that we pretend is taken for granted, or temporarily assumed for whatever purpose. In any case, it should be present in the input context.

Murray (2010a): 84

But there are very many natural situations where the presupposed content is not in the common ground, and yet the conversation does not crash. This has been discussed widely in the context of the well-known phenomenon of PRESUPPOSITION ACCOMMODATION (Lewis, 1979b, see Potts, 2013 for an overview). The crucial point here is that accommodation is not a rare, exceptional phenomenon, some sort of a last resort intended to save the conversation. For example, according to Potts:

Speakers routinely presuppose things that have not already been established as part of the common ground.

Potts (2013): 11

⁴⁷Note also that no other evidential is felicitous in such a case, and the addressee would be **expecting** the interlocutor to continue the story in the direct evidential.

Accommodation consists in the silent acceptance (for the purpose of the conversation) by the addressee of whatever the presupposition trigger means. Say I visit an anonymous support group on quitting smoking. I don't know anything about the others in my group except that they are smokers. Besides the basics, such as which city we inhabit, what day it is, etc., that is the only relevant part of the Common Ground. On my first visit, there is a discussion of successful and unsuccessful methods. One of the participants says (subscript *psp* stands for 'presupposition'):

- (82) I am currently using the method X. I am hopeful, because [my sister]_{psp1} [quit smoking]_{psp2} using it.

I don't know anything about anyone in the group, so I couldn't have known that the participant has a sister (presupposition 1), or that she used to smoke (presupposition 2). These details are new information to me, but this does not lead to a crash in our mutual intelligibility. The participant is perfectly cooperative and addresses the Question under discussion (QUD): what methods are effective for quitting.

Another example in the same vein:

- (83) Context: in a coffee shop, a stranger compliments my hat and asks me where I bought it. I say:
It was a gift from [my sister]_{psp}.

In this case, I am cancelling the stranger's presupposition in the question, that I bought the hat, and I am introducing a new one: that I have a sister. Yet the answer cooperatively addresses the question under discussion.

The definition of presupposition as contributing **only** shared information runs into problems not only for English, but also for Murray's own proposal that in Cheyenne, all evidentials in questions contribute a presupposition, and that conjecturals carry a presupposition even in declaratives (i.e. conjecturals are not fully illocutionary, see again the discussion in §2.3.2). The latter would mean that the speaker, before

uttering p , already assumes that the addressee knows that she does not have direct evidence for p . Murray (2010a) does not provide empirical evidence that this information is indeed shared by the conversational participants, but to illustrate why this might not be the case, consider the following example. In order for a speaker to felicitously utter (84) under the assumption that *might* encodes a shared information presupposition that the speaker does not have direct evidence for p , both the speaker and the addressee need to already know that the speaker did not observe Emad not being in the office, otherwise the sentence would be uninterpretable. This seems implausible, since (84) is, for example, a felicitous answer to a sincere information seeking question like ‘Where is Emad?’ asked by a person who is hoping that the addressee has some information about the whereabouts of Emad, but without knowing what kind of information that is.⁴⁸

(84) Emad might be in the office.

To conclude, evidentials are underspecified for newness of the information they contribute, that is, they encode neither necessarily new, nor necessarily old information — just like presuppositions.

2.4.1.3 Evidential contributions can be challenged

The other major argument of illocutionary approaches against analyzing evidentials at the propositional level is based on the premise that presuppositions can be challenged in certain circumstances, while evidentials cannot be challenged in conversation.⁴⁹ In this section, I first present novel data from naturally occurring conversations showing that this premise is not true and evidential contributions can be challenged. Then, in

⁴⁸Since, according to Murray (2010a), every question in Cheyenne is marked with an evidential, it is not clear whether and how this scenario would be rendered in Cheyenne.

⁴⁹For a recent discussion of non-challengeability from a non-illocutionary point of view, see Korotkova (2016).

the light of these data, I revisit the existing examples summoned as arguments against the challengeability of evidentials, and suggest possible alternative explanations of them.

Presuppositions are notorious for not always being as seamlessly accommodated as in the scenarios discussed above. Accommodation can be sometimes overtly refused by the addressee, and the contribution of the presupposition trigger — explicitly challenged. Potts provides the following example, uttered by a student who failed to obey the deadline for submitting a homework:

(85) [My giraffe]_{psp} ate my homework.

Potts (2013): §2.5

Potts uses this example to show that accommodation largely depends on non-linguistic factors, such as the current dynamics of trust-worthiness of the interlocutors: how knowledgeable the addressee perceives the speaker to be, but also cultural, politeness, and other factors. If the student is not trustworthy, the professor will likely not be willing to accommodate the idea that the student owns an exotic giraffe pet, who also happens to eat paper.

A very similar observation can be made with respect to evidentials. While evidentials are impermeable to sentential operators like negation and modals, and either shared or routinely accommodated by interlocutors (just as Potts remarks on presuppositions), the meaning contributed by evidentials can in certain cases be questioned or challenged by the interlocutors verbally in discourse. The conditions are analogous to those Potts lists as allowing the challenging of presuppositions, such as lack of trust-worthiness. This is especially visible in the case of direct evidentials. The following example is taken from the comments section under a piece of news about a terrorist attack in Kabul, Afghanistan. Commenter A uses a direct evidential form when discussing the number of attackers. The other commenters, B and C, challenge A (and C mocks him) because it is highly unlikely that Speaker A was actually present

during the attacks and at the same time was online commenting under a news website while his life was on the line. Just as in example (85), where the presupposition is resisted on the basis that the student is unlikely to own a pet giraffe, similarly speaker A in (86) is likely not being a cooperative interlocutor by using the direct evidential.

- (86) **A:** Atakite **byaha** dosta dobre organizirani i v nikakav sluchai ne
 attacks were.DIR very well organized and in no way not
 byaha ot samo 5-6 dushi.
 were.DIR from just 5-6 people
 ‘The attacks were very well organized and definitely not by just 5-6 people.’

B: “He(=A) is exaggerating, given that he probably wasn’t there...”

C: “Were you(=A) there, that you are saying this, as if you were there with the RPG?”

[Bulgarian], <https://dnes.dir.bg/comments/afganistan-talibani-kabul-9480708>

Challenging the contribution of a direct evidential can also happen in contexts referring to events that happened before the speaker was born, or when the speaker was not consciously aware of them: such events cannot be described by the speaker by using direct evidentials. The next example is from a natural conversation. The son is an adolescent, heritage speaker of Bulgarian and the mother’s response meant to correct his Bulgarian and directly questions the evidential contribution.⁵⁰

- (87) Son:
 a. #Kogato bjax bebe, **placheh** mnogo.
 when was.1SG.DIR baby cry.1SG.DIR many
 Intended: ‘When I was a baby, I cried a lot.’

⁵⁰The example also shows that the mother’s evidential could not possibly be interpreted as ‘flipped’. This challenges currently prevalent views that evidentials in questions obligatorily shift to represent the addressee’s evidence, not the addressee’s (see Murray, 2010b, more recently Bhadra, 2017 and references therein. The topic of evidentials in questions is not addressed further in this dissertation, except another brief mention in §3.3.2.1.

Mother:

- b. Ti da ne bi da pomnish kolko problemi ni
you to not COND to remember how-many problems us.DAT
suzdavashe?!
created.2SG.DIR
'As if you could remember how many problems you created for us!'
[Bulgarian]

What goes wrong in this conversation is that the son is telling a story about a time which he could not possibly remember consciously (even though he was of course physically present at the events of his crying).⁵¹

These two examples with challenging the evidential contribution presented here, (86) and (87), are similar to the 'Hey, wait a minute' test of von Fintel (2004), used to challenge the presuppositions of less controversial presuppositional elements, such as possessives.

Finally, constructed scenarios like the one below are consistently rejected by native speakers:⁵²

- (88) #Kogato bashta mi se **rodi**, dyado mi **posadi**
when father my REFL be.born.DIR baby grandfather my
darvo pred kushtata...
planted.DIR tree in.front.of house.DEF
intended: 'When my dad was born, my grandfather planted a tree in front of

⁵¹I was informed that in the English translation, the mother's challenging response can be felicitous under an assumption that the son was speaking as if he remembered the event. But the son's utterance could be felicitous (and not challengeable) in English under the more natural assumption that the son is merely retelling a story that he learned from his family. This can be verified with a typical English sentence like: "I was born in Ottawa." which in English is perfectly felicitous, but in Bulgarian it is unacceptable if marked with a direct evidential.

⁵²They are rejected when asked to regard as someone's actual life story, but may be accepted when regarded as fiction, where one can exist and witness things before one's father is born, e.g. the movie *Back To The Future*.

the house...’

[Bulgarian]

In a real life story (i.e. excluding fiction), the speaker could not have witnessed the birth of his own father. As one of my Bulgarian consultants commented when probed with such scenarios, “one has to reach a certain age in order to be able to use [the direct evidential]”. The English translation, on the other hand, is felicitous and in fact the only way to say this sentence in English.

In the light of these novel data and discussion, I now present the data provided by Faller (2006, 2002) for German and Cuzco Quechua and Murray (2010a) for Cheyenne, in support of the claim that that evidentials cannot be overtly challenged, and re-examine the reasoning. Consider the following conversations:

- (89) a. Ines-qa qaynunchay ñaña-n-ta-s watuku-sqa.
Ines-TOP yesterday sister-ACC-BPG visit-PST2
p=‘Inés visited her sister yesterday.’ EV= speaker was told that p
b. Mana-n chiqaq-**chu**. #Mana-n chay-ta willa-rqa-sunki-chu.
not-BPG true-NEG not-BPG this-ACC tell-PST1-3S2O-NEG
‘That’s not true. # You were not told this.’

[Cuzco Quechua], Faller (2002): (160)-(161)

- (90) a. Ines **soll** gestern ihre Schwester besucht haben.
‘Ines **is said to** have visited her sister yesterday.’
b. Nein, das stimmt nicht. #Das hat Dir niemand erzählt.
‘No, that’s not true. # Nobody has told you that.’

[German], Faller (2006): (26)

- (91) A: Méave’ho’eno é-hestahe-**sestse** Mókée’e.
Lame Deer 3-be.from-RPT.3SG Mókée’e
‘Mókée’e is from Lame Deer, I hear.’

B': É-sáa-ne-hétóméto-hane-∅. É-sáa-hestahe-he-∅ Méave'ho'eno
 3-neg-AN-be.true-MODB-DIR 3-neg-be.from-MODA-DIR Lamé Deer
 'That's not true. She's not from Lamé Deer.'

B'' #É-sáa-ne-hétóméto-hane-∅. Né-sáa-ne-néstó-he-∅
 3-neg-AN-be.true-MODB-DIR 3-neg-AN-hear.B-MODA-DIR
 'That's not true. # You didn't hear that.'

B'' #É-sáa-ne-hétóméto-hane-∅. Hovánee'e
 3-neg-AN-be.true-MODB-DIR 3-neg-AN-say.-MODB-DIR
 é-sáa-ne-hé-he-∅

'That's not true. # Nobody said that.'

[Cheyenne] Murray (2010a): 51, (3.5)

The infelicity of the challenges in all these examples is taken by the authors to signify that evidentials inherently cannot be challenged. I question not the judgments (they would be the same in the Bulgarian counterparts of these sentences) but the motivation of the infelicity. Faller (2002); Murray (2010a) attribute the infelicity to a fundamental property of all evidentials, but it can be explained instead with the specific nature of rumors as follows.

Consider first the fact that the felicitous challenges above ((86)-(88)) involve the direct evidential, while the infelicitous examples here ((89)-(91)) are with the reportative evidential. Reportatives, unlike directly perceived events, have much fewer restrictions on how plausible they are. This is important because implausibility was summoned above as a foundation for the successful challenging of an evidential: an evidential contribution that one has direct evidence for something that happened before they were born can be challenged because it is objectively impossible. The years simply don't add up.

Rumors, on the other hand, are much more liberal in terms of the plausibility of their existence. It is not the content of the rumour that needs to be implausible, but the mere existence of a rumour. Since there is no quality control on the content of rumors (for example, they can even be nonsensical or logical contradictions: "Meinong

said that the square circle is not a square circle” could have been uttered even if he never said it), it is harder to find a situation in which a rumor is impossible or at least implausible to exist — and that is the kind of situation we need in order for an addressee to be able to felicitously challenge an utterance with a reportative evidential. One can never rightly say ‘Nobody (ever) said that!’ because there could always have been someone somewhere who said just about anything. This explains why the challengeability examples previously appealed to in the literature, all based on the reportative evidential, do not unequivocally show that evidentials as a whole cannot be challenged, but follow from the fact that rumors/reports cannot be objectively challenged.

With regards to the reportative evidential, it seems to me that at most one can appeal to a **subjective** plausibility judgment, such as one based on the reputation of the source.⁵³ In defence of this, I offer the following minimal pair scenario based on recent political discourse, where the report and the reaction is the same, and the only difference is who the source of the report is.

- (92) A plausible report cannot be felicitously challenged on the basis of implausibility.

Reputation: Trump is known to publicly reject the existence of the global warming.

- a. Speaker A:

Spored Trump **nyamalo** globalno zatoplyane.
 according.to Trump is-no.REP global warming
 ‘According to Trump, there is no global warming.’

- b. Speaker B:

#Ne, ne mozhe da e kazal tova!
 no not may DA be said.MASC this
 ‘No, he could not have said this!’

⁵³Note that this works only when the source is known. Rumors from unknown sources cannot be judged highly reputable, so presumably, their existence cannot be challenged at all.

[Bulgarian]

- (93) An implausible report can be felicitously challenged on the basis of implausibility.

Reputation: Greta Thunberg is a famous environmental activist.

- a. Speaker A:

Spored Greta Thunberg **nyamalo** globalno zatoplyane.
according.to Greta Thunberg is-no.REP global warming
'According to Greta Thunberg, there is no global warming.'

- b. Speaker B:

Ne, ne mozhe da e kazala tova!
no not may DA be said.FEM this
'No, she could not have said this!'

[Bulgarian]

This minimal pair shows that when the report is plausible considering the reputation of its source, as in (92), the report cannot be felicitously questioned by the interlocutor, but when the report is implausible based on its source's reputation, as in (93), the report can be felicitously challenged by the interlocutor. The existing views in the literature that evidentials entail a non-negotiable update of the common ground do not predict the felicity of the challengeability of the sentence in (93) by the conversational addressee.⁵⁴

To summarize, the evidence presented here defends the view that the evidential contribution is at the presuppositional level and challenges the claims against it. A new semantic concept, that of PRESENTATION or NOT-AT-ISSUE ASSERTION, is not necessary for analyzing evidentials and does not correctly capture their properties,

⁵⁴Note that the modality in the sentence improves the judgment: *She couldn't have said this* is better than *she didn't say this*, which was used by Murray. This supports my view outlined above, that it is very hard to objectively know that someone has not said something, but it is much more acceptable to offer a subjective judgment of what they could say based on their character, knowledge, values, reputation, etc.

either, since it is predicated on the idea that the evidential contribution is non-negotiable. I have provided novel evidence in favor of the hypothesis that allows analyzing evidentials in the semantics as presuppositions, which is also theoretically much simpler, as no new theoretical concepts or tools need to be introduced.

Defending the view that evidentials are encoded as presuppositions does not entail that they have to be epistemic modals, which have been overlapping so far. In the previous section, I challenged the idea that evidentials (except perhaps inferentials/conjecturals) are epistemic modals. Next, I turn to proposing an alternative presuppositional view on the nature of evidentials.

2.4.2 The nature of evidentials: propositional attitude predicates

I propose that evidentials are functional propositional attitudes, such as SAY for reportative evidentials, PERCEIVE for generic direct evidentials (or more specific, e.g. SEE/HEAR/SMELL for languages where this is grammatically differentiated).

As introduced above, evidentials are usually separated into three typological groups: direct perceptual, reportative, and inferential (Willett, 1988). Setting aside inferentials for the reasons described above, I propose that (at least) direct perception and reportative evidentials are interpreted much like attitude predicates.⁵⁵ When an utterance is marked with a visual perceptual evidential, the interpretation it conveys is that the speaker *saw* the event. When marked with a reportative evidential, it conveys that someone *said* it. A language with a rich inventory of predicates it encodes

⁵⁵There are attitude predicates with meanings parallel to those of epistemic modals, such as *assume*, *infer*. Thus, inferential evidentials are not incompatible with the functional attitude hypothesis. What I have argued above is that they are different from other evidentials in that they are not incompatible with a modal hypothesis, either, while reportative and direct evidentials are, at least given the currently available data. Thus, inferentials are uninformative as to the general nature of evidentiality.

as evidentials is Tuyuca, from the description of Barnes (1984). The translations in these examples are provided by the author (except the comment marked in square brackets), I have marked in bold the evidential morpheme and the predicate it relates to for ease of exposition (the author has not provided glosses):

(94) Tuyuca evidentials:

- a. díga apé-**wi**
‘He played soccer’. (I **saw** him play.)
- b. díga apé-**ti**
‘He played soccer’. (I **heard** the game and him, but I didn’t see it or him.)
- c. díga apé-**yi**
‘He played soccer’. (I have **seen evidence** that he played: his distinctive shoe print on the playing field. But I did not see him play.)
- d. díga apé-**yigi**
‘He played soccer’. (I obtained the information from someone else.) [= someone **told** me, V.S.]
- e. díga apé-**hiyi**
‘He played soccer’. (It is reasonable to **assume** that he did.)

[Tuyuca] Barnes (1984): 257, (1)-(5)

Support for the idea that evidentials are interpreted as attitudes comes also from how they can be addressed in a conversation. For example, if one conversational participant uses a reportative evidential, the addressee can felicitously answer with *Who told you so?*, meaning that the addressee interprets the evidential contribution as meaning that someone *said* so. This is illustrated here from Tagalog, (95), and Bulgarian, (97). That the assumption of a saying event is indeed contributed exclusively by the evidential marking can be seen from a control with an evidentially unmarked sentence, where such a question is not felicitous, (96) and (98) respectively

for Tagalog and Bulgarian.

- (95) Conversation involving a sentence marked with reportative:

Conversant A:

Umuulan **daw**.
rain REP
'It's raining (reportedly).'

Conversant B:

Sino ang nagsabi?
who NOM said.AV
'Who said so?'

[Tagalog]

- (96) Conversation involving an evidentially unmarked sentence:

Conversant A:

Umuulan.
rain
'It's raining.'

Conversant B:

#Sino ang nagsabi?
who NOM said.AV
'Who said so?'

[Tagalog]

- (97) Conversation involving a sentence marked with reportative:

Conversant A:

Valjalo.
raining.REP
'It's raining (reportedly).'

Conversant B:

Koj ti kaza?
who you.ACC said
'Who told you?'

[Bulgarian]

(98) Conversation involving an evidentially unmarked sentence:

Conversant A:

Vali.
raining.PRES
'It's raining.'

Conversant B:

#Koj ti kaza?
who you.ACC said
'Who told you?' [Bulgarian]

Modelling the meaning of evidentials as predicates of saying, seeing, etc., is not only an intuitive way to analyze them, as suggested by the examples above, but also theoretically simple, since it is predicated on an already existing linguistic category: that of propositional attitude verbs, as opposed to creating fundamentally new categories.

Yet, to my knowledge, this hypothesis has not been attempted. Evidentials have been formalized in the literature as epistemic modals (Izvorski, 1997; Matthewson et al., 2007), illocutionary operators that modify sincerity conditions of speech acts (Faller, 2002) or the conversational update proposals of the speech act (Murray, 2010a), as discussed in detail above, but not as attitudes. It is worth mentioning that the illocutionary approaches do make use of abstract predicates: Faller (2002) models the evidential contribution as sincerity conditions, which are abstract predicates, such as *Bel* for 'believe' in plain assertion, *Rea* 'reasoning' for the conjectural, *Bpg* '(having) best possible grounds', and $\text{ASSERT}(s_2, q)$ for the reportative. Faller (2002) calls this 'a higher order predicate on mental predicates' (e.g., p. 184). Murray (2010a), too, considers "the evidential itself semantically as a predicate that indicate a specific type of evidential relationship between a person and a proposition. The scope

of the evidential is the propositional argument of this predicate” (p. 46-7).⁵⁶ She uses the “evidential predicates” — as she calls them — HRD ‘heard’ for the reportative, CRT ‘(be) certain’ for the direct, and CNJ ‘conjecture’ for the inferential/conjectural evidential.⁵⁷ However, neither of them gives any theoretical or conceptual significance to this, rather it’s an arbitrary detail in their technical proposals. In fact, from a theoretical point of view, regarding evidentials as predicates is an unwanted compromise for illocutionary approaches because predicates are syntactic objects. In my proposal, on the other hand, this idea is central and it capitalizes on the known properties of attitude predicates (e.g. argument structure, thematic relations, compositional properties).

In this dissertation, I explore the hypothesis that evidentials are attitude predicates interpreted at the syntax-semantics interface. However, as already hinted by the previous works [Faller \(2002\)](#); [Murray \(2010a\)](#); [Korotkova \(2016\)](#) evidentials are not full-fledged verbs. As **functional** material, they differ from lexical attitudes in a number of ways, some of which were discussed above (and more to come in the following chapters): evidentials are a closed class, with usually two-three members, and almost never more than five (§2.1), while regular attitudes are an open lexical class. Their not-at-issue interpretation discussed in §2.4.1 also sets them apart from lexical attitudes which are interpreted at-issue. While regular attitude verbs interact with tense, mood, etc., evidentials are not, to my knowledge, typologically attested to express modalized or temporal meanings, such as the ones constructed below, where the constructed evidential contribution is represented by italics, but are rather fixed with a realis reading of the evidential event (event of seeing, of saying...).⁵⁸

⁵⁶This also suggests a compositional representation of evidentials, but [Murray \(2010a\)](#) does not pursue this option.

⁵⁷[Korotkova \(2016\)](#) also uses an abstract evidential predicate, but just one generic predicate for all evidentials, which she labels ACQUIRE, meaning ‘the speaker acquired some evidence’, where the type of evidence is additionally specified by the respective morpheme.

⁵⁸According to [Fleck \(2007\)](#), in Matsigenka, evidentials can express two different past relations, roughly recent *vs* distant past. According to [Smirnova \(2013\)](#), Bulgarian evidentials express a temporal past

- (99) p -EV, where:
 $p = \text{jump}(\text{Vladi})$
EV = visual
- a. [OK] ‘*I saw* Vladi jump.’
 - b. *‘*I will see* Vladi jump.’
 - c. *‘*I am seeing (now)* Vladi jump’
 - d. *‘*I could have seen* Vladi jump’

To summarize, my central proposal on the nature of evidentials is that they are FUNCTIONAL PROPOSITIONAL ATTITUDES: they share core properties with lexical attitudes, but they also have functional properties that lexical attitudes may not have. The label LIGHT ATTITUDES alludes to so-called LIGHT VERBS, which are also part functional, part lexical, and is used synonymously with FUNCTIONAL PROPOSITIONAL ATTITUDES.

My proposal addresses the debate introduced in §2.1 on whether evidentiality is a primitive category or part of another category as follows. Analyzing evidentials as propositional attitude predicates fits into the streams of thought that regard them not as a primitive category but as a part of another category, similarly to modal proposals, though with a different implementation. This has two benefits: one is that **not** regarding evidentials as a primitive category means that they do not need to form a natural class. This can potentially explain the facts mentioned above: that inferential/conjectural evidentials in various languages seem to behave like true epistemic modals, while other types of evidentials have different properties. Another appealing feature of the functional attitude hypothesis is that it can explain the typological ubiquitousness of evidentials (Aikhenvald, 2004). The primitive category views could explain it, by postulating that evidentiality is so popular because it is a fundamen-

relation: that the evidence was acquired before the moment of utterance. The nature of the relation as temporal is disputed by Arregui et al. (2018) for both Bulgarian and Matsigenka.

tal category in natural language. This holds of the modal hypothesis as entertained by [Izvorski \(1997\)](#), too. But that version faces the problem of overgeneralization, since it relates the (indirect) evidential interpretation directly to the semantics of the present perfect tense. It is not clear what restricts the occurrence of the evidential interpretation in those languages that have present perfect tense but not an attested evidential interpretation of it. The modal hypothesis of [Matthewson et al. \(2007\)](#) makes the prediction that modality manifests either as ‘source’-based, i.e. evidentiality, or ‘force’-based (i.e. regular modals), but not both, which was falsified in the previous section.

The explanation under my hypothesis is in effect very similar, but does not need to be individually postulated since it rests on the fact that lexical attitudes are widely spread in natural languages. Since, arguably, any language has attitude verbs like ‘say’, any language has the potential to grammaticalize them into evidentials, and many do.

In the rest of the dissertation, I bring to light new empirical properties shared by both perfect-based evidentials and independent morphemes, as well as by other, non-evidential phenomena, such as logophoricity and more generally *say*-complementizers (Chapter §3) and propose a formal rendition of the evidentials-as-attitudes hypothesis at the syntax-semantics interface within Generative Grammar, which accounts for these new properties as well as the major properties already identified by previous works, without appealing to epistemic modality (Chapters §4-5).

Chapter 3

Evidentiality and logophoricity

In the previous chapter, I presented the notion of evidentiality and the major current theoretical issues and assumptions about it. I provided arguments aimed at dispelling what is perhaps the most persistent current theoretical question in the literature: the idea of a major typological split between so-called ‘illocutionary’ *vs* ‘propositional’ evidentials. I advocated for an approach to evidentiality that asks a different question: what are the shared properties of evidentials across morphosyntactic representations of evidentiality. This question can then help tease apart between which of the properties we observe are fundamental properties of the notion of evidentiality, and which ones are consequences of the idiosyncratic morphosyntactic representation of evidentiality in a particular language and thus in need of a more local explanation. I proposed that the fundamental shared core of evidentiality can be modelled as functional propositional attitude verbs.

At the same time, as discussed in Chapter §2, most existing approaches assume — explicitly or implicitly — that various evidentials within the same language have the same morphosyntactic properties, with only lexical differences among them. In the previous chapter, I discussed evidence against that assumption (e.g. the different morphology and interpretation of the conjectural). In this chapter, I continue to explore the properties of evidentials, and I show that reportative and direct evidentials

have different distributional, perspectival, and morphosyntactic properties, most of which, to my knowledge, have not been noticed in the existing literature and not predicted by any of the existing formal accounts, to the exception perhaps of [Faller \(2002\)](#). I show that reportative evidentials have a lot in common with the hallmark properties of LOGOPHORICITY — a phenomenon that also has a somewhat controversial status in the literature. Like evidentiality, logophoricity can also be expressed by dedicated and non-dedicated morphology in different languages. Thus, much like for evidentiality, the question of which properties are fundamental of the phenomenon and which ones are properties of the host on which it is dependent holds also with respect to logophoricity. Perhaps the most famous non-dedicated manifestation of logophoricity is through so-called LONG-DISTANCE REFLEXIVES, LDR. Section §3.1 is devoted to comparing dedicated logophors and LDR. I show that a number of properties that have been considered fundamental to logophoricity in general by the LDR literature are unique to reflexives and not found in dedicated logophors. They are not what makes LDR logophoric. To further demonstrate this, I also show how two formal analyses of LDR cannot be applied to dedicated logophoricity.

This reopens the question of what the basic properties of logophoricity are. In §3.2, I seek the answer in languages with dedicated logophoricity. The fundamental properties of logophoricity are that it pertains to indirect discourse and exhibits perspectival restrictions to a third person attitude holder (i.e. neither current speaker, nor current addressee). The crucial finding is that logophoricity is a functional attitude phenomenon and thus comparable with evidentiality as both are under the umbrella of the same phenomenon. This allows us to learn more about evidentiality by asking whether it shares any of the properties that logophoricity has.

And indeed, as I demonstrate in §3.3, reportative evidentiality has the same perspective restrictions as logophoricity, while direct evidentials do not share them. These properties have not been discussed in the existing literature because these questions could not have been asked by most existing accounts of evidentiality. Ask-

ing these questions and predicting the differences among different types of evidentials and the similarities between reportative evidentials and logophoricity is only possible after a paradigm shift away from the ‘illocutionary-modal’ dichotomy view of evidentiality to the functional attitudes view, and after controlling for the fact that the inquiry on the nature of logophoricity has often been obscured by focusing exclusively on LDR-specific properties.

The findings show both that there is a relation between two previously unrelated phenomena — logophoricity and evidentiality — and that different evidentials even within the same language can have different syntactic behavior and semantic interpretations.

3.1 The notion of logophoricity

The term LOGOPHORICITY has been used in a number of ways in the literature, and yet explicit discussion of whether these various uses are compatible with each other, and to what extent, is scarce. This lack of clarity is problematic because the properties considered fundamental of logophoricity by one approach may not be transferable to others, and a theoretical model of one phenomenon labelled logophoricity may not apply to another. This section is aimed at contributing towards the illumination of these issues. In §3.1.1, I provide an overview of the use of the term and the typology of logophoricity. Then in §3.1.2, I focus on one particularly popular, yet controversial, use of the term logophoricity with respect to so-called EXEMPT ANAPHORS, or LONG-DISTANCE REFLEXIVES (LDR). I compile arguments (old and new) to show that a number of properties of LDR that have been considered defining of logophoricity by the LDR literature do not hold in languages with dedicated logophoricity. In §3.1.3, I show that two recent formal-theoretical accounts of LDR do not apply to logophoricity but only capture properties of LDR that are not logophoric but arise from the nature of the host (a reflexive).

3.1.1 Basics of the notion of logophoricity

LOGOPHORICITY is a term coined by Hagège (1974) for dedicated pronouns that refer to, in his words, “the person who utters, explicitly or implicitly, a discourse or the essence of a discourse, the one who is cited and who we can call the SECONDARY SPEAKER, as opposed to the PRIMARY SPEAKER” (p. 289). Logophoric pronouns are illustrated in the following example from Ewe (Niger-Congo). In English, the translation sentence ‘Kofi said that he left.’ is ambiguous: *he* could refer to Kofi or someone else. But in Ewe, the two readings are disambiguated by two different pronominal forms: *yè* is a form dedicated for co-reference with the secondary speaker, as in (100a), and cannot be used in (out of the blue) matrix clauses, cf. (101a), while *e*, which is also what is used for third person pronouns in matrix sentences, as in (101b) is used in the embedded clause in the lack of co-reference with the secondary speaker (here matrix subject), (100b). For ease of exposition, I gloss the logophoric pronoun LOG, and the non-co-referential pronoun as 3SG, though the logophoric pronoun is also third person, as demonstrated in §3.1.2.5.

- (100) a. Kofi (gblo) be **yè**-dzo.
 Kofi say COMP LOG-leave
 ‘Kofi said that he (=Kofi) left.’
 b. Kofi (gblo) be **e**-dzo.
 Kofi say COMP 3SG-leave
 ‘Kofi said that he/she (≠Kofi) left.’

[Ewe] Dimmendaal (2001): 132, (1), (2)

- (101) a. ***Yè** dzo.
 LOG leave
 Intended: ‘She/he left.’
 b. **E** dzo.
 3SG left
 ‘He/she left.’

[Ewe] Pearson (2015): (2), (4)

A crucial property of the logophoric pronoun *yè* is that it has no other uses in the language. Hagedøge’s 1974 observations were drawn from the languages Ewe (Niger-Congo), Tuburi (Chadic), and Mundang (Chadic). Logophoric pronouns are now known to be an areal feature unique to the languages of the so-called ‘Macro-Sudan belt’ and not found in other languages elsewhere in Africa or outside the African continent (Güldemann, 2003). More specifically, the geographical distribution of logophoricity is defined as follows:⁵⁹

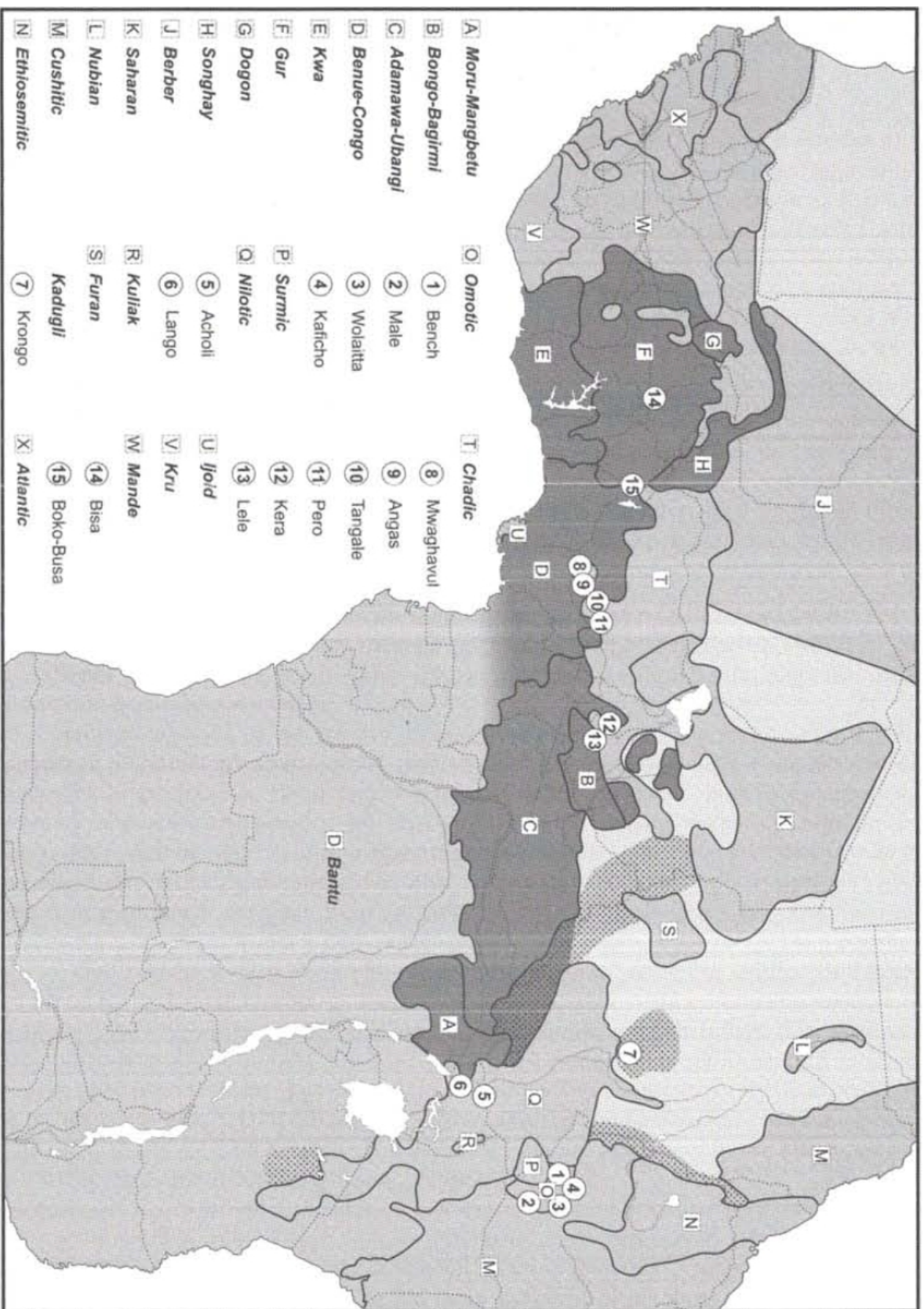
“African languages with a logophoric system are concentrated in a broad, fairly compact belt stretching from the south-eastern corner of Ethiopia in the East up to the Niger river in the West. It covers large portions of the Central African Republic, Cameroon, Nigeria, Benin, Togo, Ghana, Burkina Faso, and Ivory Coast, as well as considerable territory in Congo-Kinshasa, Uganda, Ethiopia, Sudan, Chad, Niger, and Mali.

Güldemann (2003): 380

The geographical distribution of logophoricity is illustrated on the map (also from Güldemann, 2003) in Figure 3.1 on the next page.

In some languages, the reverse of what is observed above for Ewe is attested: the same personal pronoun as the one in matrix clauses (*?ékè* in Mabaan) is used for obligatory co-reference with the matrix attitude holder, while a separate, dedicated pronoun (sometimes called “fourth person”, here *?éktá*) is used for obligatory non-co-reference with the matrix attitude holder. This has been called ANTI-LOGOPHORICITY and seems to be less typologically common than logophoricity and is also less studied and documented, see for some discussion Cho (1989); Andersen (1999); Curnow (2002); Yashima (2015); Kaiser (2004, 2018).

⁵⁹Güldemann’s typological study is based on 39 languages in total, where the sample is selected in such a way that it “aims particularly at a continental representativeness regarding genealogical language groups” (p. 367), and can thus be considered comprehensive.



- (102) a. ?ékè gókè ?àge ?ékè kânje
 3SG say:AP:3 INIT 3SG swim:FUT:IND:3SG
 ‘He_i says that he_i will swim.’
- b. ?ékè gókè ?àge ?èktá kânje
 3SG say:AP:3 INIT 4SG swim:FUT:IND:3SG
 ‘He_i says that he_j will swim.’

[Mabaan] Andersen (1999): 508⁶⁰

In the languages shown above, logophoric pronouns (respectively, anti-logophoric pronouns, in anti-logophoric languages) have no other uses, i.e. they are dedicated logophoric (resp. anti-logophoric) forms. A note on terminology is due. For example, a popular study on logophoricity, Culy (1994a), calls languages with dedicated logophoric pronouns PURE LOGOPHORIC LANGUAGES, and contrasts them with languages where a pronoun that has other, more common uses, also has a ‘logophoric use’, which he calls MIXED LOGOPHORIC LANGUAGES. Culy’s discussion resembles the one on the morphological expressions of evidentiality presented in Chapter §2 (for example, Faller (2002) also uses the term ‘pure’ for languages where an evidential morpheme has no other uses in the language). Culy’s labels PURE and MIXED correspond to the descriptive labels DEDICATED and NON-DEDICATED, respectively, that I use for evidential languages. Therefore, in the rest of the exposition, I apply the terms ‘dedicated’ and ‘non-dedicated’ to logophoricity as well, as they are descriptive and neutral and avoid side connotations.

The English personal pronoun *he* in the translation of (100), ‘Kofi said that he left.’, illustrates the concept of mixed (in Culy’s terminology) or non-dedicated (here) logophoricity: *he* has a logophoric use, referring to the matrix attitude holder, as in the translation of (100a), and a non-logophoric use, referring to someone else, as in the translation of (100b). In some languages, such as Latin, Icelandic, Japanese, Korean, Mandarin, reflexive pronouns can have a logophoric use (in addition, not

⁶⁰Cited from Curnow (2002): (9)-(10).

instead of, personal pronouns, see fn. [61]). This is illustrated below with examples from Mandarin. The pronoun *ziji* is a reflexive, as in (103), and (104) shows that *ziji* can also be used where in logophoric languages a logophoric pronoun would be found, as was the case in (100a).

(103) Local use of reflexives (antecedent and reflexive are in the same clause):

Zhangsan pipingle **ziji**.
 Zhangsan criticized self
 ‘Zhangsan criticized himself.’

[Mandarin] Huang and Liu (2001): (62a)

(104) Long-distance use of reflexives (antecedent and reflexive are in different clauses):⁶¹

Zhangsan juede Lisi zai piping **ziji**.
 Zhangsan think Lisi at criticize self
 ‘Zhangsan thinks Lisi is criticizing him.’

[Mandarin] Huang and Liu (2001): 162, (53)

Such ‘long-distance’ uses of reflexives — such as embedded *ziji* referring to matrix Zhangsan in (104) — have spurred a great deal of interest in the syntax theoretical literature, because they seem to be exempt from Condition A of Binding Theory: that an anaphor must be bound within its governing domain (usually considered the clause).⁶² Because of their property of being reflexive and not obeying Condi-

⁶¹The use of *ziji* is both optional and ambiguous. It is ambiguous in that *ziji* can refer to either Zhangsan (exempt anaphor reading) or Lisi (local anaphor reading). It is also optional, because a regular third person pronoun could also be used, with the same ambiguity as in English (i.e. referring to Zhangsan or someone else, but not to Lisi). For now what is important about example (104) is that the long-distance reflexive reading is possible, not that it is not unique.

⁶² One difficulty with the concept of exempt anaphors is that it is theory-internal, based on a pre-existing definition of anaphors. Charnavel and Zlogar (2015) formulate this issue as follows:

how can we identify exempt anaphors without presupposing the validity of a certain theory about Condition A? To know what falls outside the scope of Condition A,

tion A at the same time, these morphemes have been called NON-CLAUSE-BOUNDED REFLEXIVES (NCBR), long-distance reflexives (LDR) (Cole et al., 2001b), EXEMPT ANAPHORS, SUBJECT ANAPHORS, and LONG-DISTANCE ANAPHORA, and logophora. In the hope of promoting clarity and avoiding ambiguity, hereafter, I shall refer to them as LDR and I will use the label ‘logophoric’ only for the dedicated pronouns in logophoric languages, for which an alternative label is not available.⁶³

The puzzle that LDR pose for Binding Theory has been subject of debates for the

we indeed need to know the scope of Condition A; but to determine the scope of Condition A, we reasonably need to examine the distribution of all anaphors; so how can we nonarbitrarily distinguish exempt from plain anaphors?

Charnavel and Zlogar (2015): 2-3

Mohanan (1981) formulates the problem in a more neutral way: GB assumes that the binding domains of pronouns and anaphors are incompatible (“anaphors are bound where pronominals are free” p. 46), but in a number of languages, an anaphor and a pronoun can “have the same antecedent in the same structural position” (p. 47).

⁶³ English (also French and Italian) also have exempt anaphors in matrix clauses, an observation first credited to Ross (1970) for first (and somewhat more restrictedly, second) person, and extended in scope by Zribi-Hertz (1989). In the sentences below, an anaphor is allowed in a position where it either does not have an overt antecedent (examples by Ross, 1970) or it is not c-commanded by the antecedent and “cannot possibly be allowed by condition A” (Reinhart and Reuland, 1991: 289, cf. the (b) cases):

- (i) a. This paper was written by (Ann and) myself.
- b. Apart from myself only three members protested.

Reinhart and Reuland (1991): (55) (credited to Ross, 1970)

- (ii) a. Max’s eyes watched eagerly a new picture of himself in the paper.
- b. *Max’s eyes watched himself (in the mirror) with a new eagerness.

Reinhart and Reuland (1991): (11)

- (iii) a. Bismarck’s impulsiveness had, as so often, rebounded against himself.
- b. *Bismarck’s impulsiveness had, as so often, failed himself.

Reinhart and Reuland (1991): (12) (credited to Zribi-Hertz, 1989)

past 40 years and still receives a lot of attention (see early discussions by Thráinsson (1976); Maling (1984); Sigurðsson (1990); Thráinsson (1990) for Icelandic, Huang (1984); Tang (1989) for Mandarin, Mohanan (1981) for Malayalam, Kannada, Mandarin, Yoruba, Giorgi (1984) on Italian; edited volumes and monographs dedicated to the topic include Koster and Reuland (1991); Cole et al. (2001b); Pan (2013); Charnavel (2019), see for more recent discussions and overviews Reuland, 2017, 2018; Charnavel et al., 2017; Charnavel, 2018, 2020, 2019). The topic of long-distance reflexives and the rich literature on them cannot be done justice here. My goal in the discussion that follows in §3.1.2 is merely to show that LDR and (dedicated) logophors do not share those properties and theoretical puzzles that the LDR literature considers logophoric; this means that formal analyses that only account for these properties are not extendable to pure logophors, as shown in §3.1.3.

-
- (iv) a. Lucie likes pictures of herself.
 b. You should hang a picture of myself on your wall.

Reinhart and Reuland (1991): (30)

Reinhart and Reuland (1991) propose that such examples are also logophoric, establishing the following relation: “precisely in the same environments allowing a first person reflexive to be free (or discourse bound), a third person reflexive can be long-distance bound, in apparent violation of condition A” (p. 312). Thus, it is assumed that whatever accounts for the long-distance cases, would be able to capture the local exempt cases, as well. For example, Reinhart and Reuland (1991) propose a redefinition of Condition A and B in such a way that ‘exempt’ cases like the above are simply outside the scope of either condition and thus do not violate them. Recently, Charnavel (2018, 2020) propose that such cases are not exempt but have a silent local binder. Since existing proposals on exempt anaphora, to the exception of Park (2018), discussed in §3.1.3.3, seem to either explicitly state or at least assume that matrix exempt anaphors are no different from embedded ones, the matrix cases are not further discussed in this dissertation. However, I am not aware of any literature that explicitly shows that matrix exempt anaphors have the properties considered fundamental of long-distance ones and discussed in §3.1.2, such as obligatory sloppy and *de se* readings. This is an open question whose answer the rest of this chapter does not bear on, but would ultimately need to be addressed in works on LDR.

3.1.2 Differences between logophoricity and LDR

It was shown above that the same kind of relation — co-reference between a matrix attitude holder and an embedded pronominal argument — can be established in four ways: (i) a free personal pronoun (like in English) ambiguous between a co-referential and a non-co-referential (‘fourth person’) reading; (ii) an anaphor (like in Mandarin) ambiguous between a local anaphoric and a co-referential reading; (iii) a dedicated logophoric pronoun, like in Ewe, Donno So, and other Macro-Sudan languages, where a non-co-referential relation is established by the ‘regular’ personal pronouns; (iv) by the ‘regular’ personal pronoun to establish co-reference and by a dedicated other pronoun (‘fourth person’) to establish non-co-reference (anti-logophoricity, e.g. in Mabaan). These findings are summarized in Table 3.1.

Of these four types of morphological expression, three involve a free pronoun, and only one (LDR) involves an anaphor, yet LDR has received the most attention in the theoretical literature. My goal here is to question whether solutions intended for LDR can be successfully extended to the whole phenomenon, or at least be taken as a starting point. In their introduction into the state of the art on the topic of logophoricity, Cole et al. (2001a) share the following conclusion on the matter:

“the analogy between long-distance reflexives and logophoric pronouns collapses when the two are compared in a fine grained fashion, and the origin of the discourse conditions on long-distance reflexives is distinct from that of logophoric pronouns”

Cole et al. (2001a): xxv

In the rest of this subsection, I support this view with more in-depth arguments.⁶⁴

⁶⁴Some of Cole et al.’s arguments are as of present no longer considered valid or at least not cross-linguistically so; I have omitted these from the discussion that follows. For example, one piece of evidence they appeal to is that in logophoric languages, logophors can only appear under verbs of saying, while in LDR languages, LDR pronouns can appear under verbs of saying or thinking.

type of language ↓ type of pronoun →	REFL	LOG (emb)	3SG (matr)	4SG (emb)
English	<i>himself</i>	<i>he</i>	<i>he</i>	<i>he</i>
LDR (e.g. Chinese)	<i>ziji</i>	<i>ziji/wo</i>	wo	wo
LOG (e.g. Ewe)	<i>dokui</i>	<i>yè</i>	<i>e</i>	<i>e</i>
ANTI-LOG (e.g. Mabaan)	<N/A>	?ékè	?ékè	?èktá

Table 3.1: Summary of the cross-linguistic typology of the morphological manifestation of logophoricity. Column labels are meant to be descriptive and stand for type of pronominal relation: REFL stands for form that expresses reflexivity, LOG stands for the form in the embedded clause that expresses co-reference with the matrix attitude holder, 3SG stands for the form used for free third person (singular) pronouns in matrix clauses, and 4SG stands for the form used in the embedded clause when there is no co-reference between it and the matrix attitude holder.

What have been considered the hallmark properties of LDR in the literature are summarized here and discussed in detail in the rest of this subsection.⁶⁵

However, in a number of (dedicated) logophoric languages, attitude verbs other than *say* also license logophoric pronouns, see for an influential typology Culy (1994a) and for discussions on particular languages Hagège (1974); Culy (1994b); Pearson (2012, 2015). Another one of Cole et al.’s arguments is still valid: that some logophoric languages also have logophoric addressee forms, while no LDR languages do. However, it is not yet clear what the theoretical significance of this is, and the logophoric languages that have attested dedicated addressee forms are very few, thus this property does not seem to be a defining property of logophoric languages. Below I present stronger empirical and theoretical arguments that support the same conclusion as that cited above from Cole et al. (2001a).

⁶⁵According to Cole et al. (2001b), this list was compiled first by Pica (1987) and refined by later works, see Cole et al. (2001b) for historical remarks, and Park (2018) for a current list, which the list presented here is mostly based on.

- (105) Properties of LDR:
- a. Reflexive pronouns⁶⁶
 - b. Only sloppy reading under ellipsis
 - c. Obligatory co-reference under multiple antecedents
 - d. Obligatory *de se* interpretation
 - e. % No person restriction on antecedents

Property (105e) is currently thought to be subject to cross-linguistic variation (marked with %). It is discussed in §3.1.2.5. Properties (105a)-(105d) are still agreed upon as universal defining properties of LDR languages. In what follows, I show that logophoric pronouns in dedicated logophoric languages, or ‘pure logophoric languages’, as Culy (1994a) calls them, have none of these properties: they are not reflexive (§3.1.2.1), they allow strict readings in ellipsis (§3.1.2.2), disjoint reference under multiple antecedents (§3.1.2.3), and *de re* interpretations (§3.1.2.4); their person variation is different from that of LDR (§3.1.2.5). To my knowledge, although some of these properties have been episodically noted in the literature, a comprehensive side-by-side comparison like the one I present below has not yet been compiled.⁶⁷

⁶⁶ In addition to the issues of the definition of anaphors in terms of Condition A discussed in fn. [62], the details of the first property, (105a), have been debated in the literature. According to early views such as Pica (1987) and much posterior work (Koster and Reuland, 1991; Reinhart and Reuland, 1993, a.m.o.), only monomorphemic reflexives with no phi-features can have an LDR function: so-called SE vs SELF anaphors (see Reuland, 2018 for an overview). However, currently English, Italian, French anaphors, which are not only not monomorphemic but also have phi-features (e.g. *myself*), are considered LDR (Charnavel, 2019). This detail is important for the understanding of cross-linguistic variation among LDR languages, but it is not discussed any further in this dissertation because it is not relevant, since logophoric pronouns are not reflexive forms, see §3.1.2.1.

⁶⁷I have focused here only on arguments that directly bear on the fundamental properties of LDR languages. For additional arguments why LDR and logophoric languages are different, see particularly Culy (1994a) from a logophoric perspective and Cole et al. (2001a) from an LDR perspective.

3.1.2.1 Logophors are not reflexive

The defining property and theoretical puzzle of LDR is that they do not always obey Condition A but can (optionally) be exempt from it in embedded clauses, where they can take on a ‘logophoric’ role and are in complementary distribution with a personal pronoun (i.e. a Condition B pronoun) with an antecedent in the preceding clause. This was illustrated with examples (103) and (104), repeated here: (106) shows that *ziji* is used as a reflexive in a monoclausal setting, and (107) shows that *ziji* in the embedded clause can refer to the matrix subject.⁶⁸

(106) Use of reflexives in same clause:

Zhangsan pipingle **ziji**.
 Zhangsan criticized self
 ‘Zhangsan criticized himself.’

[Mandarin] Huang and Liu (2001): (62a)

(107) Long-distance use of reflexives:

Zhangsan juede Lisi zai piping **ziji**.
 Zhangsan think Lisi at criticize self
 ‘Zhangsan_i thinks Lisi is criticizing him_i.’

[Mandarin] Huang and Liu (2001): 162, (53)

Logophoric pronouns’ logophoric role, on the other hand, is the **only one** they have. Logophoric pronouns in pure logophoric languages are not morphologically identical or even related to reflexive pronouns. For example, in Ewe, reflexive pronouns are formed by the genitive form of the free pronoun plus the ‘self’ morpheme *dokui* (Clements, 1975).⁶⁹ The following examples illustrate that logophors do not

⁶⁸The LDR reading of embedded *ziji* is optional. Local reading of embedded *ziji* (Huang and Liu, 2001). I have not found discussions on the difference between the two uses and what would motivate one over the other. A potential explanation is discussed in fn. [82].

⁶⁹The rest of this argument is due to Clements (1975), but see also Hagège (1974) for more data from Tuburi and Mundang, Frajzyngier (1985) for more data from Mapun (summoned also

have reflexive properties in the sense of obeying Condition A.⁷⁰ Example (108) shows that the logophor *yè* cannot express local reflexivity, unlike *ziji*, as in (106).

(108) Local/reflexive use of logophoric pronouns is impossible:

- a. Kofi lɛ **e-dokui**.
Kofi love himself
'Kofi loves himself.'
- b. *Kofi lɛ **yè**.
Kofi love LOG
intended: 'Kofi loves himself.'

[Ewe] Clements (1975): (19)

Furthermore, reflexives in Ewe do not have the long-distance uses that Mandarin *ziji* has, compare the ungrammatical use of the reflexive *e-dokui* in (109) with the grammatical *ziji* in (107).

(109) Long-distance use of reflexives in logophoric languages is impossible:

- *Kofi be **e-dokui** dzo.
Kofi COMP him-self left
intended: 'Kofi_i said that he_i left.'

[Ewe] Clements (1975): (20)

To conclude, while in LDR languages a reflexive pronoun can have a logophoric use, in logophoric languages true reflexives have no logophoric use and logophoric pronouns do not have reflexive uses. This also means that logophoric pronouns are, both in their morphology and syntactic behavior, free pronouns (not reflexives). The discussion below further shows that logophors pattern with free pronouns and unlike anaphors not only morphologically but also in terms of semantic properties.

by Cole et al., 2001a towards the same conclusion), Culy (1994b) for more data from Donno So, and Dimmendaal (2011): 329 for a typological claim that logophors and anaphors are different in Nilo-Saharan, Nilotic, and Niger-Congo languages.

⁷⁰Clements (1975):150: "They[=reflexives] are mutually exclusive with the logophoric pronoun".

3.1.2.2 Logophors allow strict readings

‘Local’ reflexives only allow sloppy readings under ellipsis, as in (110), while free pronouns allow both strict and sloppy readings, as in (111).

(110) John shaved **himself**, and Peter did, too.

- a. Peter shaved Peter. (sloppy)
- b. *Peter shaved John. (*strict)

Thráinsson (1991): (30a)

(111) John saw **his** book and Peter did, too.

- a. Peter saw his own book. (sloppy)
- b. Peter saw John’s book. (strict)

Thráinsson (1991): (30b)

Long-distance reflexives preserve this property and only allow sloppy readings of LDRs in ellipsis, as in (112):⁷¹

(112) Zhangsan_i shuo [Lisi changchang kuidai **ziji**_i], Wangwu ye yiyang.
 Zhangsan say Lisi always mistreat self Wangwu also the-same
 ‘Zhangsan_i says that Lisi always mistreats him_i; so does Wangwu.’

- a. [says Lisi mistreats Wangwu].’ (sloppy reading)
- b. *[says Lisi mistreats Zhangsan].’ (*strict reading)

[Mandarin] Park (2018): 49, (22)

This property is crucial for the analysis of LDR because it has been taken as evidence that LDR are bound variables (Thráinsson, 1991; Huang and Liu, 2001; Park, 2018). Free personal pronouns in LDR languages, as expected in parallel with (111), allow both sloppy and strict readings:

⁷¹This argument and comparison between LDR and logophoric languages is due to Culy (1994a); Sells (1987) credits the first observation of this LDR property to Thráinsson (1976) on Icelandic.

- (113) Zhangsan_i shuo [Lisi changchang kuidai **ta_i**], Wangwu ye yiyang.
 Zhangsan say Lisi always mistreat he Wangwu also the-same
 ‘Zhangsan_i says that Lisi always mistreats him_i; so does Wangwu.’
- a. [says Lisi mistreats Zhangsan] (strict reading)
 b. [says Lisi mistreats Wangwu] (sloppy reading)
- [Mandarin] Park (2018): 49, (23)

Note that LDR languages do not have a form that only allows a strict reading. This is so because the personal pronoun form can co-refer with the matrix subject (the use of *ziji* is optional, not obligatory). In dedicated logophoric languages, however, where co-reference is obligatorily represented with a logophoric pronoun, and non-co-reference is obligatorily represented with a ‘matrix-like’ pronoun (glossed as 3SG), the prediction of the same reasoning is that a logophoric pronoun will allow both sloppy and strict readings, as in (114), while a free pronoun, (115) — which is obligatorily non-co-referential with the subject — would only have neither strict, nor sloppy, but rather a ‘fourth person’ interpretation, comparable to the interpretation arising from an English sentence disambiguated by gender mismatch, such as (116).⁷² This is borne out:

- (114) Logophoric pronoun is ambiguous between strict and sloppy readings:
- Kofi ko e-hose be Ama lo **ye**
 Kofi only 3SG-believes COMP Ama loves LOG
 Only Kofi_i believes that Ama loves him_i.’
- (i) Others do not believe that Ama loves him. (strict)
 (ii) Others_k do not believe that Ama loves them_k. (sloppy)
- [Ewe] Culy (1994a): (41a)

⁷²This line of reasoning also makes predictions for languages that encode anti-logophoricity. The antilogophoric pronoun would be predicted to only allow the strict reading, while the ‘regular’ third person pronoun would be predicted to have both readings, like English personal pronouns. However, I am not aware of any literature that has tested this.

(115) Regular pronoun is unambiguous, but not co-referential:

Kofi ko e-hose be Ama lo e
 Kofi only 3SG-believes COMP Ama loves 3SG
 ‘Only Kofi_i believes that Ama loves him_k.’
 = Others do not believe that Ama loves him_k

[Ewe] Culy (1994a): (41b)

(116) Only Brandon believes that Andrew loves her_k.

= Others do not believe that Andrew loves her_k

To sum up, logophors allow both strict and sloppy readings, thus semantically patterning with free pronouns and not with anaphors. This also shows that logophors should not be analyzed as bound variables.

3.1.2.3 Logophors allow disjoint reference

A hallmark property of LDR languages is that multiple LDRs in the same embedded clause do not allow multiple antecedents when embedded under more than one attitude verb, but are restricted to one antecedent, though they are ambiguous between which one of the multiple antecedents it is. This observation is first credited to Pan (1997), see for further discussions Huang and Liu (2001); Park (2018); Charnavel (2020). For example, when there are two long-distance antecedents, as illustrated in (117), the LDR-only readings of the sentence, which are shown in (117b), are only two-way ambiguous, as opposed to four-way, that is, multiple *caki* in the same embedded clause cannot have different long-distance antecedents. The readings in (117a) further show that when one of the readings is local, this restriction is lifted and disjoint reference is allowed (thus giving rise to a seven-way ambiguity).⁷³

⁷³Reading (117a-i) shows that an entirely local reading of embedded *caki* is also possible, as was mentioned in §3.1.2.1.

- (117) John-i [Tom-i [Mary-ka **caki**-uy chayk-ul **caki**-uy chinkwu-eykey
 John-nom Tom-nom Mary-nom self-gen book-acc self-gen friend-to
 cwuessta-ko] sayngkakhayssta-ko] malhayssta.
 gave-comp thought-comp said
 Lit. ‘John said that Tom thought that Mary gave self’s book to self’s friend.’

a. Readings involving at least one overt **local** interpretation of the embedded reflexive (i.e. referring to Mary):

- (i) ‘...Mary gave self (=Mary)’s book to self (=Mary)’s friend.’
- (ii) ‘...Mary gave self (=Mary)’s book to self (=Tom)’s friend.’
- (iii) ‘...Mary gave self (=Tom)’s book to self (=Mary)’s friend.’
- (iv) ‘...Mary gave self (=Mary)’s book to self (=John)’s friend.’
- (v) ‘...Mary gave self (=John)’s book to self (=Mary)’s friend.’

b. Readings with **both LDR** interpretations of the two reflexives:

- (i) ‘...Mary gave self (=Tom)’s book to self (=Tom)’s friend.’
- (ii) ‘...Mary gave self (=John)’s book to self (=John)’s friend.’
- (iii) *‘...Mary gave self (=Tom)’s book to self (=John)’s friend.’
- (iv) *‘...Mary gave self (=John)’s book to self (=Tom)’s friend.’

[Korean] **Park** (2018): 32, (19)⁷⁴

The obligatory co-reference of multiple LDR has been considered crucial evidence for the theoretical analysis of multiple LDRs as obligatorily bound by the same local (‘logophoric’) operator and for posing conditions that each clause can only contain one such operator (**Anand**, 2006; **Park**, 2018).⁷⁵

⁷⁴I have reorganized the order of the readings to make the point clear, but the readings and the reasoning is the same as in **Park** (2018).

⁷⁵There is a difference in how the two proposals regard the single operator per clause: for **Anand** (2006), the operator is generated in the most local embedded clause (the clause that is immediately embedded under the attitude verb). For **Park** (2018), the operator is hosted by the most embedded clause, but because there is space for only one operator, the most embedded clause in (117) is ambiguous between hosting the operator generated by the matrix clause (‘John said...’) or the

The readings allowed by multiple logophoric pronouns in the same clause embedded under more than one predicate, however, are exactly those that are ungrammatical in Mandarin:⁷⁶

- (118) létóró_i pà de kòléfí_k pà de ... àné_k ná gándá àné_i ...
 Toad say that Zorille say that LOG go house LOG
 ‘Toad_i replied that Zorille_k had said that ... he_k had been to his_i house ...’
 [Banda-linda] Culy (1997): (8)

- (119) Kofi_i xo-e se be Ama_k gblo be yè_{i/k}-ju yè_{i/k}
 Kofi receive-3SG hear that Ama say that LOG-beat LOG
 a. ‘Kofi_i believed that Ama_k said that he_i beat her_k’
 b. ‘Kofi_i believed that Ama_k said that she_k beat him_i.’
 [Ewe] Culy (1997): (10)

This once again patterns with free pronouns, consider:

- (120) Paul said that Andrew thought that he had been to his house.
 a. Paul has been to Andrew’s house
 b. Andrew has been to Paul’s house

Given that logophoric pronouns do not have a reflexive use, as was argued in §3.1.2.1, a sentence with logophors like (118),(119) cannot have any of the interpretations that are possible in a sentence with LDRs like (117), because they are **all** reflexive, even the ones in (117b), under any version of the local operator approach. While Culy (1994a) does not explicitly show that co-reference is prohibited in logophoric languages, the

operator generated by the middle clause (in the example above, that would be ‘Tom thought...’). Neither of these alternatives, however, can generate the logophoric data in (118). Furthermore, these approaches might not be able to generate the felicitous interpretations in (117a) (except for the trivial (117a-i)) because they are based on local binding. Having two reflexive items in the sentence locally bound by different antecedents seems to defy locality principles.

⁷⁶See Culy (1997) for more examples.

following example shows that reflexivity in a logophoric context is marked with a logophoric pronoun plus the reflexive marker *dokui* ‘self’.

(121) Logophoric reflexives in logophoric languages

Kofi be **yè** lɛ **ye-dokui**.
 Kofi COMP LOG love LOG-self
 ‘Kofi_i said that he_i (=Kofi) loves himself_i.’

[Ewe] Clements (1975): (5)

Thus, it is reasonable to infer that a co-referential reading in a multiple embedding case such as (119) would have to use the (logophoric) reflexive form with *dokui*, and the logophoric free pronoun could only signal disjoint reference. But for the discussion here it is sufficient that examples like (118), (119) allow the readings that are impossible in LDR languages, regardless whether they are the only ones available in logophoric languages (which they likely are).⁷⁷

To conclude, once again, logophoric pronouns pattern with personal pronouns and not reflexives not just morphologically, but also in fine-grained syntactic and semantic properties.

3.1.2.4 Logophors are not obligatorily *de se*

The final hallmark property of long-distance reflexives is that they are interpreted obligatorily *de se*, that is, from the conscious, first-personal perspective of the matrix subject.⁷⁸ The example below shows that when the matrix attitude holder is not

⁷⁷One more argument for this is that under LDR approaches, the explanation of the felicitous examples in (117b) is that the two reflexives are both locally bound by the same local operator, i.e. their felicity is explained entirely by Condition A. If these proposals are on the right track about LDR, the same analysis would correctly predict that true logophoric languages do not have the readings that require a reflexive interpretation.

⁷⁸This observation on LDR dates back at least to Kuno (1972); Kuroda (1973), see for background discussions Koster and Reuland (1991); Cole et al. (2001b) and for a recent overview Park (2018).

aware that he was talking about himself, the LDR cannot be felicitously used and only the free personal pronoun is possible.⁷⁹

(122) Obligatory *de se* interpretation of the Chinese reflexive *ziji*

S1: Zhangsan says: “That thief stole my purse!”

S2: Zhangsan says: “That thief stole that purse!” (not aware that it was his purse)

Zhangsan shuo pashou tou-le **ziji**-de pibao.

Zhangsan said pickpocket steal-Perf *ziji*-DE purse

‘Zhangsan_i said that the pickpocket stole his_i purse.’ [✓S1, #S2]

[Mandarin] Park (2018): 52, (26) citing Huang and Liu (2001)

Logophors, on the other hand, are not necessarily *de se*, as argued extensively by (Pearson, 2012, 2015) (see therein for more examples and discussion).⁸⁰

(123) John has just found an old paper that he wrote, but he doesn’t realize that he is the author of the paper. He reads it and is impressed by what a good paper it is. He says, “Whoever wrote this paper is clever.”

John be **yè** le cleva.

John say LOG COP clever

‘John said that he was clever.’

[Ewe] Pearson (2015): (51)

To sum up, once again, (dedicated) logophoric pronouns share formal properties with free personal pronouns and not with long-distance reflexive pronouns.

⁷⁹This also shows that personal pronouns in LDR languages are not obligatorily *de se*; however, note that they are not obligatorily *de re* either, i.e. in a *de se* case, both a reflexive and a free pronoun are available in LDR languages.

⁸⁰Pearson (2012, 2015), however, is not concerned with LDR and does not make the comparison presented here.

3.1.2.5 Person restrictions: different in LDR and logophoric languages

While the properties discussed above are considered fundamental for LDR languages for decades, and seem to hold for all studied LDR languages in the literature, the property I turn to here has been recently shown to be subject to cross-linguistic variation within LDR languages by Park (2018). Until Park (2018), it was considered that LDR effects arise with any matrix person, as show in the following example from Mandarin:

(124) No person restriction for the Mandarin LDR *ziji*

- a. **Wo_i** juede [Lisi_j zai piping **ziji_{i/j}**].
I think Lisi at criticize self
'I_i think that Lisi_j is criticizing me_i/himself_j.'
- b. **ni_i** juede [Lisi_j zai piping **ziji_{i/j}**].
you think Lisi at criticize self
'You_i think that Lisi_j is criticizing you_i/himself_j.'
- c. **Zhangsan_i** juede Lisi_j zai piping **ziji_{i/j}**.
Zhangsan think Lisi at criticize self
'Zhangsan thinks Lisi is criticizing him/himself.'

[Mandarin] Huang and Liu (2001): 162, (51)-(53)

Park (2018) argues that in Korean, exceptionally, the reflexive *caki* can refer to any person in a local interpretation, but only to a third person in a long-distance interpretation. This is what I call the PERSON RESTRICTION.

The person restriction is prevalent in logophoric languages, where logophoric pronouns most often can represent only third person, as illustrated here with Donno So (Dogon): the logophor *inyeme* can be anteceded by a third person (125c), but not by a first person (125a) or second person (125b):⁸¹

⁸¹Clements (1975) makes this claim for Ewe, but does not provide minimal pair examples.

- (125) a. *Mi **inyem**ε yogo bojεm gim
 1SG.SUBJ LOG tomorrow go-PRG:1SG said.1SG
 Intended: ‘I said that I will leave tomorrow.’
- b. *U inyemε yogo bojε{m/u} giu
 2SG.SUBJ LOG tomorrow go-1/2SG.PRg said.2SG
 Intended: ‘You said that you will leave tomorrow.’
- c. Yo **inyem**ε yogo boojεm gi
 3SG LOG tomorrow go-PRG:1SG said.3SG
 ‘{He/She}_i said that {he/she}_i will leave tomorrow.’
- [Donno So] Culy (1994b): 114, (3)

Typologies agree that while it is — by exception — possible for a logophoric language to not have the person restriction, that is very rare, and most logophoric languages obey it. This shows that even though both logophoric and LDR languages seem to share the same overall property: some languages have the restriction, while others don’t, there are differences in distribution: most LDR languages (to the exception of just one, Korean, see Park, 2018) can freely represent non-third person antecedents, as shown in (124), while most logophoric languages only represent third person, as noted by both typological studies of logophoric languages such as Hyman and Comrie (1981); von Roncador (1992); Culy (1994a), as well as those on individual languages (Clements, 1975; Lord, 1993; Pearson, 2015).⁸²

⁸²The typological person difference described here can perhaps be derived from the other properties of LDR above, and especially the property of *de se*. If the role of the LDR form is to disambiguate not between discourse participants but between states of mind of the same person (obligatory *de se* with an LDR vs. non-obligatory with a personal pronoun, see §3.1.2.4), together with the fact that it is a SE-type anaphor devoid of phi-features (§3.1.2.1), then in principle the LDR should be equally allowed with first and second person when they are used *de se*. We saw in §3.1.2.4 that this is the case with respect to third person, but I do not know of any LDR study that discusses *de se* in first and second person. So whether this prediction is borne out remains to be verified empirically. On the other hand, because the role of logophoric pronouns (in ‘pure’ logophoric languages) is to disambiguate between ‘third’ and ‘fourth’ person (i.e. co-reference vs. non-coreference with a third-person), and such ambiguity does not exist with first and second person, logophors would be

3.1.2.6 Conclusions: logophoricity and long-distance reflexives

After reviewing properties of logophors and long-distance reflexives less conclusive than the ones compiled above, Cole et al. (2001a) reach the following conclusion (from the point of view of the study of LDR):

“the analogy between long-distance reflexives and logophoric pronouns collapses when the two are compared in a fine grained fashion [...] while the term “logophoricity” appears to be too well established to banish it from discussions of long-distance reflexives, it is important to recognize that there is strong evidence against the hypothesis that long-distance reflexives are covert logophoric pronouns”.

Cole et al. (2001a): xxv

Above I provided novel, more systematic and clear-cut arguments for the existence of a divide between logophoric and LDR pronouns. They are summarized in Table 3.2. However, my interpretation of the results is different from the one quoted here from Cole et al. (2001a). I have shown that logophoric pronouns are not reflexives, but free pronouns, and that they do not share any of what are currently considered the fundamental properties of logophoricity by the LDR literature.

However, I am not suggesting that (dedicated) logophoric forms are not logophoric because they do not share the properties of LDR which have been called logophoric, or that LDR have **no** logophoric properties. In order to answer the question of what logophoric properties LDR have, we need to know what the properties of logophoricity are. This is the topic of the next section, §3.2. So far I have shown that most of LDRs’ properties that have been considered logophoric are LDR-specific, i.e. idiosyncratic properties of the host (illustrated in Table 3.2), and thus they do not reflect the underlying nature of the phenomenon of logophoricity but instead delineate a locus

expected to be much more prominent with third person than second or first persons simply because with first and second person there is no ambiguity.

pronominal form/property	LDR	LOG pronouns	free pronouns
Reflexive	yes	no	no
Sloppy reading only	yes	no	no
Obligatory co-reference	yes	no	no
Obligatory <i>de se</i>	yes	no	no
Person restriction	mostly no	mostly yes	fixed person

Table 3.2: Main properties of LDR pronouns in comparison with dedicated logophoric and general free pronouns

of crosslinguistic variation among the ways in which logophoricity is expressed. One implication from this finding is that the theoretical puzzles that LDR are famous for — their exemption from a standard formulation of Condition A — do not hold of logophoric pronouns (or logophoricity).⁸³

These conclusions may be surprising for approaches to logophoricity that start with LDR as the basic manifestation of logophoricity and take the properties of LDR to be properties of logophoricity, but would hardly be unexpected if one starts with the four cross-linguistically attested ways to express a logophoric relation, which were presented in the introduction on logophoricity in §3.1.1 and are summarized in Table 3.3 on the next page (repeated from Table 3.1). Only one of the four options involves reflexives, and the rest involve free pronouns. The obvious example is from English, where the free pronoun *he* optionally has a logophoric use:

(126) Mike_{*i*} said that he_{*i/j*} left.

In addition to clarifying the form of logophoric pronouns (§3.1.2.1), these findings

⁸³If anything, logophoric pronouns may now, given the discussion above, be taken to be of interest for Condition B. In fact, personal pronouns that seem to disobey Condition B have been discussed (though overshadowed by exempt anaphora) in a number of the works on LDR cited throughout this section. Whether logophors can inform that side of the puzzle, I leave open to future investigation.

language ↓ / pronoun →	REFL	LOG (emb)	3SG (matr)	4SG (emb)
LOG (e.g. Ewe)	<i>dokui</i>	<i>yè</i>	<i>e</i>	<i>e</i>
ANTI-LOG (e.g. Mabaan)	<no data>	<i>?ékè</i>	<i>?ékè</i>	<i>?éktá</i>
LDR (e.g. Chinese)	<i>ziji</i>	<i>ziji/wo</i>	<i>wo</i>	<i>wo</i>
English	<i>himself</i>	<i>he</i>	<i>he</i>	<i>he</i>

Table 3.3: Summary of the cross-linguistic typology of the morphological manifestation of logophoricity. The column lists type of languages and which language the morphological examples are drawn from. Column labels: LOG=logophoric languages, ANTI-LOG=anti-logophoric languages, LDR=languages with long-distance reflexives, ‘English’ has not been labelled. The rows list types of pronoun (by function, not form): REFL=what the language uses to mark local reflexivity, LOG=what the language uses to mark co-reference of an embedded pronoun with a matrix attitude holder, 3SG-matrix=what the language uses to express free 3SG pronouns in matrix clauses, 4SG(embedded)=what the language uses to express non-co-reference with a matrix attitude holder in embedded clauses. The morphological forms are the cells of the table.

bear important theoretical implications about the understanding of the phenomenon of logophoricity and what an adequate formal approach to it should aim to capture. One such implication is that any successful account of the properties of LDR discussed in this section and summarized in Table 3.2 — be it based on a redefinition of Condition A or based on the introduction of a local binder — is not going to capture the properties of logophors since they are not governed by Condition A to begin with (they are free pronouns).⁸⁴ In the next subsection, §3.1.3, I illustrate this by applying two recent theoretical approaches on LDR to logophoricity. One is based on the local binder idea Charnavel (2018, 2020). The other one, introduced by Park (2018), is to consider the ‘short’ and ‘long-distance’ instances of reflexives as separate lexical entries and/or the logophoric property of LDR as a separate, add-on property unrelated to their basic properties discussed here and summarized in Table 3.2 above.

3.1.3 Two formal accounts of LDR

3.1.3.1 Charnavel (2018, 2019)

Charnavel (2018, 2020) analyzes LDR in French, *lui-même* ‘he himself’ and *son propre* ‘his own’, but her proposal is in principle applicable to LDRs in general.⁸⁵

Charnavel’s main thesis is that exempt anaphors are not exempt but locally bound by a silent personal pronoun (which Charnavel, 2020 labels pro_{log} for ‘logophoric pronoun’)⁸⁶, which in turn is co-referenced with a matrix argument (which Charnavel

⁸⁴For numerous variations on the redefinition of Condition A, see overviews in Koster and Reuland (1991); Cole et al. (2001b), and references therein. The redefinition approaches are not further discussed in what follows, because a major issue of this type of account for logophoric languages is that it would incorrectly predict that true reflexive forms should be available as logophoric pronouns, while still not accounting for logophoric pronouns.

⁸⁵The general tendency for LDR languages is to have simplex morphemes with no phi-features, as were all the LDR cases presented in the previous section, see also fn. [66]. In that sense, Charnavel’s dataset is not typical morphologically. However, because her analysis does not bear on that difference at all, but focuses on the the anaphoric nature of these phrases, it is applicable to other LDR.

⁸⁶This label can be confusing because Charnavel (2020) also calls LDR ‘logophors’, but insists

(2020) calls the LOGOPHORIC CENTER). The silent pronoun is hosted in the specifier of a silent LOGOPHORIC OPERATOR⁸⁷ projection LogP that can be generated as a sister to the “smallest tensed TP, *v*P, DP or any other XP with subject containing them”, p. 42).⁸⁸ This is represented as follows:

$$(127) \quad [_{LogP} \text{pro}_{log_i} [_{Log^0} OP_{LOG} [\alpha \dots \text{exempt anaphor}_i \dots]]]$$

Charnavel (2020): (11a)

The function of the operator is to present its complement α from the first-personal perspective of its subject argument:

$$(128) \quad \llbracket OP_{LOG} \rrbracket = \lambda\alpha.\lambda x. \alpha \text{ from } x\text{'s first-personal perspective}$$

Charnavel (2020): (11b)⁸⁹

This can get the *de se* reading of LDR in at least two ways.⁹⁰ When the complement of the operator is a TP, i.e. a proposition, the output of the operator would be something along the lines of ‘*p* is true from the first-personal perspective of *x*’, where *x* is the logophoric center (from the matrix clause) represented in the embedded clause by the logophoric pronoun pro_{log} , and the co-reference of the LDR pronoun with *x* will be established by binding. When the complement is a DP, i.e. the LDR, the

that they are not personal pronouns, while pro_{log} is necessarily not an anaphor.

⁸⁷The idea of a silent ‘logophoric operator’ with a pronominal binder dates back to Koopman and Sportiche (1989), but they assume that the logophoric operator projection adjoins to CP, which Charnavel (2020) seems to exclude as an option altogether.

⁸⁸It is not clear why Charnavel (2020) restricts her account of logophoricity only to finite TP. Her analysis does not seem to predict that it’s necessary.

⁸⁹The version in Charnavel (2018) is ‘from *x*’s perspective’ — without the part ‘first-personal’, but the concept seems to be the same.

⁹⁰There are other, more popular ways of representing *de se*, based on Chierchia (1989) (in turn inspired by Lewis, 1979a), such as Anand (2006); Pearson (2012) among many others. The extent to which the two approaches differ in their predictions and implications is not pursued by Charnavel (2020) and not discussed here, either, but it is an important question for future research.

self-anaphor is regarded from the first-personal perspective of x , which would get a direct self-ascription (‘self from the logophoric center’s first-personal perspective’, i.e. the center’s self).

To conclude, this is meant to capture the properties of the properties of LDR of being reflexive (i.e. the same morphological form as locally bound anaphors) and obligatorily *de se* (see again the summary in Table 3.2). It would also predict no person restrictions (i.e. the logophoric center can be of any person), which is mostly true for LDR languages, at least in third person.⁹¹ In addition, it seems to predict that LogP can be generated in matrix clauses too, thus potentially extendable to matrix exempt anaphors.⁹²

3.1.3.2 Discussion of Charnavel (2018,2019)

Charnavel’s account is based on French, but it makes predictions and has implications for LDR/logophoricity in general. Here I discuss some of these implication and whether her account is applicable to logophors.

Charnavel’s 2018; 2020 goal is to reduce the notion of logophoricity to anaphora, and the notion of long-distance anaphora to local anaphora. This means that she is arguing for one lexical entry of anaphors, instead of assuming two independent lexical entries, one for the local anaphoric function and one for the long-distance, ‘logophoric’ function, as for example in Reinhart and Reuland (1991, 1993), more recently Park (2018), and Oshima (2004) proposing three lexical entries for Japanese LDR *zibun*.

However, she uses the label ‘logophoric pronoun’ for the binder of LDRs (which she also calls logophors) that is sitting in the specifier of the logophoric operator and refers to the matrix logophoric center. So it seems that Charnavel (2020) does after all assume the existence of logophoric **free** pronouns as well as logophoric (seemingly long-distance, but really local) **reflexive** pronouns, and even within the same lan-

⁹¹See fn. [82] on *de se* with other persons).

⁹²Charnavel (2020) does not discuss this, but it seems an appealing side-effect of her formulation. See also fn. [63] for a bit more on matrix exempt anaphors.

guage (something which is so far not overtly attested typologically, see Table 3.3). In this way, while the second part of her program succeeds (reducing LDR to local anaphora), the first part — reducing logophoricity to anaphora — seems to fail with respect to LDR languages because she assumes that these languages have (even if silent) logophoric free pronouns in addition to the reflexive pronouns she calls logophoric.

Furthermore, the analysis is not applicable to dedicated logophoric languages, because (overt) logophoric pronouns in dedicated logophoric languages occur in the same places where long-distance reflexives occur in LDR languages. The analysis of Charnavel (2020) would make the same predictions about reflexive pronouns in dedicated logophoric languages as it does for reflexives in LDR languages. However, recall that Charnavel’s solution capitalizes on the fact that LDR are (by definition) also used ‘short distance’, i.e. as regular Condition A reflexives. But it was shown in §3.1.2.1 that this is not the case in dedicated logophoric languages, where logophors can only be used ‘long distance’. An analysis of LDR based on a local (logophoric?) binder for them cannot work for dedicated logophoric languages, because locally bound anaphors in these languages are morphologically different from logophors.

It should not come as a surprise, then, that Charnavel’s theoretical solution of LDR does not apply to dedicated logophors. This is so because the theoretical puzzle of LDR does not hold for logophors either: logophors are not exempt anaphors because they are not anaphors in the first place (they only occur in long-distance positions).

Furthermore, Charnavel’s analysis makes a prediction about reflexives in logophoric languages: a reflexive logophor could be possible in an embedded clause to refer to a local subject. This is not borne out in Donno So (Dogon), where the reflexive is formed by the word *ku* ‘head’, a pronoun, and the possessive marker *mo*. In a logophoric case with a reflexive as in (129b), the reflexive can take a logophoric form, but when the reflexive is intended to refer to the matrix subject, a logophoric form is ungrammatical, as in (129c). Compare this with the LDR languages that we saw in

the previous section, where exactly a reflexive form with this meaning is the hallmark of LDRs, as in (130).

- (129) a. Oumar_i **ku wo mo** samaa be.
 Oumar head 3SG POSS congratulated AUX
 Oumar_i congratulated himself_i.’
- b. Oumar_i **ku inyeme mo** samaa bem gi.
 Oumar head LOG POSS congratulated AUX-1SG said
 Oumar_i said that he_i congratulated himself_i.’
- c. *Oumar_i wo wa **ku inyeme mo** samaa be gi.
 Oumar 3SG SUBJ head LOG POSS congratulated AUX said
 Oumar_i said that he_j congratulated himself_i.’
- [Donno So] Culy (1994b): (5)

- (130) **Zhangsan** juede Lisi zai piping **ziji**.
 Zhangsan think Lisi at criticize self
 ‘Zhangsan_i thinks Lisi is criticizing him_i.’
- [Mandarin] Huang and Liu (2001): 162, (53)

To summarize so far, Charnavel’s account cannot work for either reflexive or logophoric pronouns in logophoric languages: when reflexives have a logophoric antecedent, they have dedicated logophoric marking as well, logophors are never overtly locally bound (i.e. they are not anaphors). Their occurrence is not an ‘exempt’ behavior but their only behavior.

In addition to being inapplicable to logophoric languages as is, Charnavel’s proposal does not predict obligatory co-reference of multiple reflexives in LDR languages, which is one of the core properties of LDR, discussed in §3.1.2.3. She acknowledges this (her fn. [49]) and proposes that this can be taken care of with an additional stipulation that there can be at most one logophoric projection per spellout domain.

However, this still does not rule out generating multiple LogP within the same clause, each at different spellout domains: e.g., one in an object DP, one in a vP, and one in TP, each referring to different contextually salient logophoric centers. We saw in §3.1.2.3 with example (117) that this is not desirable for LDR languages. The example is repeated here as (131) and how the multiple LogP are problematic for it by generating the ungrammatical sentences (131h) and (131i) is schematized in (132).

- (131) John-i [Tom-i [Mary-ka **caki-uy** chayk-ul **caki-uy** chinkwu-eykey
 John-nom Tom-nom Mary-nom self-gen book-acc self-gen friend-to
 cwuessta-ko] sayngkakhayssta-ko] malhayssta.
 gave-comp thought-comp said
 Lit. ‘John said that Tom thought that Mary gave self’s book to self’s friend.’
- a. ‘...Mary gave self (=Mary)’s book to self (=Mary)’s friend.’
 b. ‘...Mary gave self (=Tom)’s book to self (=Tom)’s friend.’
 c. ‘...Mary gave self (=John)’s book to self (=John)’s friend.’
 d. ‘...Mary gave self (=Mary)’s book to self (=Tom)’s friend.’
 e. ‘...Mary gave self (=Tom)’s book to self (=Mary)’s friend.’
 f. ‘...Mary gave self (=Mary)’s book to self (=John)’s friend.’
 g. ‘...Mary gave self (=John)’s book to self (=Mary)’s friend.’
 h. * ‘...Mary gave self (=Tom)’s book to self (=John)’s friend.’
 i. * ‘...Mary gave self (=John)’s book to self (=Tom)’s friend.’

[Korean] Park (2018): 32, (19)

- (132) a. Falsely predicting (131h):
 John_i said that Tom_j thought that [_{TP} LogP pro_{log-i} Mary gave self_i’s
 book to [_{DP} LogP pro_{log-i} self_j’s friend]]
- b. Falsely predicting (131i)
 John_i said that Tom_j thought that [_{TP} LogP pro_{log-j} Mary gave self_j’s
 book to [_{DP} LogP pro_{log-i} OP-LOG self_i’s friend]]]

I suggest that this can potentially be patched in either of the following two ways.

One is stipulating instead that there can be only one LogP **per clause**, instead of per spellout domain. This would correctly rule out cases where a second LogP is generated to bind the second reflexive. Another option is to not allow LogP generated at any low spellout domains but only at the highest level: TP for Charnavel (2020) and CP (e.g. somewhere within the extended CP spine) for Koopman and Sportiche (1989) and Park (2018). The latter option is the one I adopt in my proposal (in the following chapters) as well.

Perhaps the most striking consequence of Charnavel’s analysis is that it requires that free pronouns be regarded as exempt from Condition B in those places where they are allowed to co-occur with LDR. Recall that LDR are always optional, that is, in every occurrence of an LDR, a free pronoun could have been used instead. In those cases, Charnavel’s theory legitimizes the use of LDR and considers the use of free pronouns as outliers.⁹³ But then one would expect to find a number of languages where LDR is the only available option and free pronouns are not allowed. To my knowledge, such a language has not yet been found. Charnavel’s conclusion also predicts that languages where a free pronoun is allowed but a reflexive form is not allowed (in those positions where we find LDRs in LDR languages) would not exist. Yet we find at least three different typological groups that do exist: logophoric languages (recall that logophoric pronouns are personal pronouns and not reflexive, §3.1.2.1), anti-logophoric languages (where the logophoric form is the same as the matrix free 3SG pronoun), languages like English, where LDR is allowed only exceptionally in non-argument positions (unlike the SE-anaphor languages like Mandarin, Korean, and Germanic languages), and languages like Bulgarian, (134), which seem to strictly obey both Conditions A and B. In Bulgarian, anaphors cannot be LDR in any position, even those that are allowed in English, such as the Bismark example

⁹³ If it were the case that LDR are the default form and free pronouns were the anomaly, we would expect to find that most languages have LDR. While a number of languages have LDR, they do not seem to constitute the typological majority.

(in (iii), here (133)), as shown in (134), nor in positions where Mandarin but not English would allow an LDR, compare the grammatical LDR use of the anaphor in (135) and its ungrammatical counterpart in (136). Examples (134) and (136) show that in Bulgarian, anaphors and free pronouns are in complementary distribution, as dictated by Conditions A and B.

- (133) Bismarck's impulsiveness had rebounded against **him/himself**.

Reinhart and Reuland (1991): (12a) (credited to Zribi-Hertz, 1989)

- (134) Impulsivnostta na Bismark dade otrazhenia vurhu ***sebe-si/nego**.
 impulsiveness of Bismarck gave reflections on self/him
 'Bismarck's impulsiveness had consequences for him.'

[Bulgarian]

- (135) **Zhangsan** jue de Lisi zai piping **ziji**.
 Zhangsan think Lisi at criticize self
 'Zhangsan_i thinks Lisi is criticizing him_i.'

[Mandarin] Huang and Liu (2001): 162, (53)

- (136) Nasko_i smyata, che Gesha_j misli samo za **sebe-si_{*i/j}/nego_{i/*j}**.
 Nasko thinks that Gesha thinks only about self/him.ACC
 'Nasko_i thinks that Gesha_j thinks only about himself_{*i/j}/him_{i/*j}.'

[Bulgarian]

To sum up, Charnavel's proposal seems to have a number of undesirable consequences and predictions for free pronouns (logophoric or not).

3.1.3.3 Park (2018)

One possible alternative approach to LDR is to assume that short-distance anaphors and long-distance ones have two separate lexical entries, where only the first one is an

anaphor, while the LDR form is really a logophor (exhibiting accidental homophony with the anaphor). This an approach taken up, for example, by Oshima (2004) for Japanese *zibun* and Park (2018) for Korean *caki*.⁹⁴ Park (2018) argues for two lexical items *caki* in Korean: the local anaphor *caki* and a LDR *caki* that is also logophoric.⁹⁵

Thus, Park (2018) proposes that local *caki* has different properties and a different lexical entry than LDR *caki*.⁹⁶ Furthermore, for LDR *caki*, she proposes a two-layered analysis which separates the *de se*-ness from the logophoricity, because in some environments, such as relative clauses, *caki* is allowed but is not interpreted *de se*. In the example below, the crucial point is that *caki* is allowed in both the *de se* context scenario S1 and the non-*de se* context scenario S2.⁹⁷

(137) S1 (*de se* scenario): John met a person who he identifies as “That person criticized me!”

S2 (*de re* scenario): John met Tom. Unbeknownst to John, Tom is the person who criticized John.

John_i-i [caki_i-lul piphanha-n] salam-ul mannassta.
 John-NOM self-ACC criticized-ADN person-ACC met
 ‘John_i met the person who criticized him_i.’

OK in S1, OK in S2

[Korean] Park (2018): 203, (24)

Park (2018) attributes this to logophoricity, i.e. she assumes that logophoricity does not entail *de se* (which is correct, as argued for logophoric languages by Pearson, 2012, 2015 and discussed above in §3.1.2.4).

⁹⁴More specifically, Oshima (2004) distinguishes three kinds of Japanese *zibun*: local, logophoric, and empathic/deictic.

⁹⁵Deictic cases are interpreted as covertly logophoric.

⁹⁶This may be desirable, among other things, because of the *de se* requirement of LDRs. There seems to be no reason to posit that local anaphors are necessarily *de se*.

⁹⁷However, Park (2018) notes that these judgments are subject to speaker variation and some speakers require a *de se* reading even in this case.

The proposal works as follows: first, similarly to Charnavel (2018, 2020), Park (2018) introduces a perspective predicate to capture *de se*, but unlike Charnavel (2018, 2020), Park (2018) encodes it as a presupposition:

$$(138) \quad \llbracket \text{P-PRED} \rrbracket^g = \lambda P. \lambda x : P(x) = T \text{ from } x\text{'s perspective. } P(x)=T$$

Park (2018): 217, (38)

Secondly, Park proposes that the subject of the perspective predicate bears a syntactic [LOG] feature that needs to be checked by binding by an individual λ -abstractor with the same feature, i.e. Park (2018) assumes the silent subject is bound, unlike Charnavel (2020), who regards it as a free pronoun. This element does not interact with the LDR *caki*, which in turn is bound by the logophoric operator. Unlike Charnavel (2018, 2020), who regards the logophoric operator as the perspectival head, in Park (2018), the perspective predicate and the logophoric operator are split, and the function of the logophoric operator is reduced to being an individual abstractor (following Anand, 2006):⁹⁸

$$(139) \quad \llbracket \text{OP-LOG}_j \alpha \rrbracket^g = \lambda x. [[\alpha]]g^{[j \rightarrow x]}$$

Park (2018): 218, (41)

The optionality of *de se* in relative clauses is accounted for by postulating that in those environments, the perspectival predicate is still present, but its subject is not bound. This is illustrated below: the logophoric pronoun is bound by the λ -abstractor in the *de se* case in (140a), while it is free in the non-*de se* case, (140b):

$$(140) \quad \text{a. } \mathbf{de\ se\ LF}$$

$$\text{John thinks } [\lambda_1^{[log]} [\text{the woman } [\text{who}_i [\text{pro}_1 \text{ p-pred } [\text{OP-LOG}_j \text{ t}_i \text{ hit self}_j]] \\ \text{is kind }]]]$$

⁹⁸The logophoric operator is introduced by the covert perspectival predicate, i.e. the logophoric operator is part of the extended structure of the predicate projection.

b. **non-*de se* LF**

John thinks [$\lambda_1^{[log]}$ [the woman [who_i [pro₃ p-pred [OP-LOG_j t_i hit self_j]]
is kind]]

where $g(3) = \text{John}$

Park (2018): 223, (51)

To conclude, Park (2018) accounts for the major properties of LDR (discussed in §3.1.2 and summarized in Table 3.2) as follows:

- (141) a. **reflexive:** *caki* is locally bound by the logophoric operator (though it is still a different lexical entry than the local reflexive *caki*);
- b. ***de se* interpretations:** perspectival predicate (similar to Charnavel (2018, 2020) but at the presupposition level)
- c. **Sloppy readings only:** derived from *de se*
- d. **Obligatory co-reference:** only one operator per clause is allowed

Finally, Korean seems to be an exceptional case of a LDR language because it has a person restriction: only third person antecedents of *caki* are allowed. On the other hand, local *caki* allows all persons. Since Park (2018) assumes separate lexical entries for local *caki* and LDR *caki*, she simply postulates that LDR *caki* is (covertly) morphologically marked for third person (but is still assumed to be a locally bound anaphor, not a free pronoun). This is the only language-specific detail in her proposal. In principle, her analysis would apply to radical LDR languages that don't have the restriction, by simply omitting the assumption that they are lexically coded for third person. It could also be applied to logophoric languages, because Park (2018) separates the LDR form from reflexivity and the *de se* encoding from the logophoric operator.

3.1.3.4 Discussion of Park (2018)

Unlike Charnavel (2018, 2020), Park (2018) assumes that the argument of the perspectival predicate is exclusively a proposition. The challenges of generating the projection in multiple, lower locations, was discussed in §3.1.3.2, and Park’s account avoids them by assuming, without committing to a particular syntactic position, that the argument of the perspectival predicate is a proposition.⁹⁹

An advantage of the unifying analysis of Charnavel (2018, 2020) is that there is only one type of anaphor, with no special features that distinguish between local and LD binding. All LD properties are derived by virtue of the silent binder of the anaphor. For Park (2018), while both local *caki* and LDR *caki* are bound anaphors, they are different lexical entries and have different properties: local *caki* is a plain anaphor with no features, while LD *caki* bears a third person feature and an abstract [LOG] feature (supposedly a property of all LDR/logophoric languages). Park (2018) acknowledges the ad-hoc nature of the [LOG] feature: “we cannot avoid the stipulative nature of the optional [LOG] feature on the binders in control complements. A clearer explanation of the property of the [LOG] feature, which is not just on the logophoric elements but also on the binders, should be provided on the basis of a better understanding of logophoricity” (p. 140).

The analysis of Park (2018) has one considerable advantage over the one of Charnavel (2020) and all previous analyses of LDR: in Park’s system, logophoricity and *de se* are construed separately. This idea correctly predicts that not every logophoric item is also *de se* (e.g. logophors), and not every *de se* item is also logophoric (e.g. PRO), but at the same time, when an item is both logophoric and *de se* (e.g. LDR), this can be derived compositionally, and not by a separate primitive. Park (2018) does not consider this consequence of the proposal, but once we look at the cross-linguistic manifestation of both *de se* and logophoricity (e.g. §3.1.2.4), we can

⁹⁹In my proposal in the next chapter, I provide novel arguments for a high projection and specify its particular syntactic position.

appreciate the advantage of this idea over those that equate logophoricity to *de se*, and to my knowledge no other proposal on LDR has done this.

However, [Park](#)’s own proposal does not fully implement this idea. Her projection of a covert attitude predicate projects a logophoric specifier argument and generates a logophoric operator in the complement, which binds [LOG]-marked *caki* (and the lambda abstractor further optionally has a [LOG] feature). Thus, it seems that logophoricity and *de se* are still intertwined in this analysis, and when *de se* is optional, that is not dependent on the presence of logophoricity. In fact, it is not clear what prevents the optional *de se* case from generating in scenarios where it shouldn’t, since now non-*de se* versions of the covert predicate are allowed to be computed as grammatical in the language. Note that [Charnavel \(2018, 2020\)](#) does not have this issue because she considers *de se* obligatory (and thus would undergenerate by incorrectly ruling out the cases where LDR are not obligatorily *de se*).

3.1.4 Discussion of the section

When [Hagège \(1974\)](#) mentions LDR languages in the end of his paper that introduces the notion of logophoricity, he says that he is using LDR languages to “negatively characterise the logophoric [pronoun], which does not seem to exist in these two languages” (p. 290), i.e. to show what logophoricity is not. I have leveraged his idea here with novel arguments, and I have also so far characterized logophoricity negatively: I showed what properties LDR have that logophors don’t. This is important for both of these phenomena: if we want to account for LDR in terms of logophoricity, we should know what properties of LDR to attribute to logophoricity, and if we are looking at logophoricity more broadly, we now know what kinds of properties are interesting from a cross-linguistic point of view.

Similarly, [Cole et al. \(2001a\)](#), a study of LDR that compares it with logophoricity, conclude that “while the term “logophoricity” appears to be too well established to banish it from discussions of long-distance reflexives, it is important to recognize that

type of language ↓ pronoun →	REFL	LOG (emb)	3SG (matr)	4SG (emb)
LOG (e.g. Ewe)	<i>dokui</i>	<i>yè</i>	<i>e</i>	<i>e</i>
ANTI-LOG (e.g. Mabaan)	<no data>	?ékè	?ékè	?êktá
LDR (e.g. Chinese)	<i>ziji</i>	<i>ziji/wo</i>	<i>wo</i>	<i>wo</i>
English	<i>himself</i>	<i>he</i>	<i>he</i>	<i>he</i>

Table 3.4: Summary of the cross-linguistic typology of the morphological manifestation of logophoricity.

there is strong evidence against the hypothesis that long-distance reflexives are covert logophoric pronouns” (p. xxv).

However, unlike Cole et al. (2001a), I am not assuming that the existence of (be it major) differences means that the two phenomena are irrevocably separated. Consider again Table 3.3, repeated here as Table 3.4. This table shows that LDR have their place on the map of the cross-linguistic expression of logophoricity, and they are still an important part of the study of logophoricity.

The findings presented here on what makes LDR different from logophors inform the understanding of both logophoricity and how LDRs actually do play a role in logophoricity by first allowing this very question to be asked anew. Now that we are liberated from the assumption that logophors are supposed to share the prominent properties of LDR, we can ask what fundamental properties logophors have that are shared by LDR.

With this we have arrived at a situation that is very similar to the debate on the nature of evidentiality presented in Chapter §2: when looking at forms that have multiple functions in the same language, it is hard to isolate the properties unique to either one of them. For this reason, it is similarly informative to investigate the properties of languages with dedicated logophoric pronouns as it is important to investigate languages with dedicated evidential markers, and then compare them

each to the respective languages with multifunctional forms.

While the question of what properties LDR share with logophors is not pursued in this dissertation and is left open for further research, the next section, §3.2, offers a first pass at one of the ingredients necessary to answer it: what the core properties of logophors are.

A disclaimer is due regarding the scope of the findings below. In an ideal world, one would be systematically looking for the properties shared by all four cross-linguistically attested ways to express logophoricity (Table 3.4), but such a program is not feasible within the scope of this dissertation. As of now, I can only present preliminary, but promising ideas that are based on the existing data and discussions in the descriptive literature on dedicated logophoric languages.

These ideas point in a direction for a theoretical account of logophoricity. And such an account is long overdue. We have seen above (§3.1.3) that existing theoretical proposals on LDR do not apply to dedicated logophoric languages. To my knowledge, there are just two theoretical accounts of dedicated logophoric languages: Clements (1975), couched in the GB syntax framework, and Sells (1987), in DRT (Discourse representation theory).¹⁰⁰ Thus, to this day, the syntax and semantics of pure logophoric languages remain largely unexplored from a theoretical point of view. What my discussion will show for the remainder of this chapter is that logophoricity shares a number of properties with reportative evidentiality (§3.3). Even though much work remains to be done, this is promising in that it suggests that logophoricity can be formally captured with the same theoretical machinery as evidentiality (which the next two chapters are devoted to).

¹⁰⁰See also Stirling (1993) for a large scale DRT study of a number of phenomena, focusing on switch-reference, but also mentioning logophoricity. I do not discuss DRT from a theoretical point of view at all. This may be viewed as a limitation of the current study and a future comparison between the prediction of discourse theories *vs* syntax-semantics ones may be useful.

3.2 Pure logophoricity in more detail

Now that it is clarified what properties logophoricity does not have in comparison with long-distance reflexives (these were: reflexivity, sloppy readings under ellipsis, obligatory disjoint reference in multiple occurrences, and obligatorily *de se*, in §3.1.2), we can turn to those properties that it does have. In this section, I present the main ingredients of logophoricity based on an overview of the descriptive literature. One is indirect discourse, marked by the semantic role of the logophoric antecedent as an attitude holder and the presence of communicative matrix predicates or so-called *say*-complementizers: complementizers derived from the verb *say* and often used on their own to license indirect speech. Another one is non-speaker perspective: logophoric pronouns cannot represent the first-personal perspective of the current speaker.

I present these properties of logophoricity in dedicated logophoric languages, with the anticipatory remark that they are also shared by evidentials, shown in §3.3.

3.2.1 Indirect discourse

As presented in the beginning of this chapter, Hagège (1974) coined the term LOGOPHORICITY for dedicated pronouns that refer to “the person who utters, explicitly or implicitly, a discourse or the essence of a discourse, the one who is cited and who we can call the SECONDARY SPEAKER, as opposed to the PRIMARY SPEAKER” (p. 289). Similarly, Hyman and Comrie (1981): 19 define logophoricity as marking “used to indicate coreference with an individual(s) whose Speech or point of view is reported in an indirect discourse”. This marking is often but not necessarily pronominal, see dedicated discussions on the topic of non-pronominal marking in Hyman and Comrie (1981); Curnow (2002).

Sells (1987) fleshes out the relation between logophors and indirect speech more specifically by phrasing it in terms of various discourse roles. He defines three roles: SELF, SOURCE, PIVOT:

- (142) a. SELF: the one whose “mind” is being reported, i.e. the one whose mental state or attitude the content of the proposition describes
 b. SOURCE: the one who makes the report, i.e. the one who is the intentional agent of the communication
 c. PIVOT: the one from whose point of view the report is made, i.e. the one with respect to whose (space-time) location the content of the proposition is evaluated

Sells (1987): 455, 457

He goes on to argue that LDRs in LDR languages have all three roles, while dedicated logophoric languages only have the SOURCE role: “the criterial feature of true logophoric pronouns is [report] SOURCE orientation. These really are, then, pronouns that occur in contexts of indirect discourse” (p. 475).¹⁰¹

The examples found earlier in this chapter already involved indirect discourse and the antecedent of the logophor was a report source. The minimal pair in (143), repeated from (100), shows that a logophor refers to the matrix attitude holder and not some other individual (unlike in English, where the use of *he* is ambiguous):

- (143) a. Kofi (gblo) be **yè**-dzo.
 Kofi say COMP LOG-leave
 ‘Kofi said that he (=Kofi) left’
 b. Kofi (gblo) be **e**-dzo.
 Kofi say COMP 3SG-leave
 ‘Kofi said that he/she (≠Kofi) left’

[Ewe] Dimmendaal (2001): 132, (1), (2)

The role of logophoric pronouns exclusively as report source is further illustrated

¹⁰¹Sells’ SELF role seems to embody *de se* attitudes. Thus, his discussion of roles anticipates and allows for the *de se* differences illustrated in §3.1.2.4: that LDR but not logophors are obligatorily *de se*, i.e. they obligatorily have a SELF role (and optionally the others), while logophors can only have a SOURCE role.

with the following examples and discussion from Clements (1975) on Ewe. Clements (1975) explains that “the logophoric pronoun unambiguously establishes the correct assignment of co-reference” (p. 154), that is, the logophoric pronoun cannot have as an antecedent the recipient of the report, but only the report source (attitude holder).

- (144) Tsali gblo na-e be ye-e dyi yè gake yè-kpe dyi
 Tsali said to-3SG that 3SG beget LOG but log-be victor
 ‘Tsali_i told him_j (i.e. his father) that he_j begot him but he_i was the victor.’
 [Ewe] Clements (1975): (31)

Finally, the syntactic position of the attitude holder is of no importance, and oblique holders can still antecede an embedded logophor:

- (145) ao-se tso Kofi gbo be yè-ko nunana
 PRO-hear from Kofi side say-COMP LOG-receive gift
 ‘I heard from Kofi_i that he_i had received a gift.’
 [Ewe] Clements (1975): 158, (44)

To summarize, logophoric pronouns refer not to just any participant in an indirect discourse, but specifically to someone carrying a report source role.

According to Sells (1987), logophoricity is not a primitive notion, but pertains to any of the three discourse roles he introduces as primitives. His SOURCE role in DRT seems equivalent to the thematic role of ATTITUDE HOLDER, thus not necessitating the introduction of new theoretical primitives: neither that of logophoricity (in line with what he proposes), nor of the three roles suggested by Sells (1987), either.¹⁰²

¹⁰²Charnavel (2020) makes a similar observation — that SOURCE and ATTITUDE HOLDER overlap, though she also conflates the role SELF partially into attitude holder. Charnavel (2020) also claims that the PIVOT role does not pertain to logophoricity, but she does not discuss this with respect to the data that Sells (1987) presents in support of his view. Nevertheless, Charnavel may be on the right track, since Sells’s data have previously been attributed to the notion of EMPATHY, which he acknowledges as an equivalent term in his fn. [14].

3.2.2 Non-speaker perspective

So far we saw that logophoric pronouns are attitude holders of indirect discourse. Here we see that this cannot be just any attitude holder, but (in most logophoric languages) is restricted to a third person, i.e. neither (current) speaker nor (current) addressee.¹⁰³ Indirect discourse in itself does not preclude the use of first person matrix attitude holders, indicated in English by the felicitous use of sequence of tense:

- (146) When you asked me three months ago, ‘Do you love me?,’ I told you that I loved_{SOT-past} you (then). (But I don’t love you now.)

In contrast, one of the typological hallmarks of logophoric pronouns in dedicated logophoric languages is that they cannot take first person antecedents (Hyman and Comrie, 1981; Culy, 1994b), as shown in the example from Donno So: the logophor *inyemε* can be anteceded by a third person (147b), but not by a first person (147a):

- (147) a. *Mi **inyemε** yogo bojem gim
 1SG.SUBJ LOG tomorrow go-PRG:1SG said.1SG
 Intended: ‘I said that I will leave tomorrow.’
 b. Yo **inyemε** yogo boojem gi
 3SG LOG tomorrow go-PRG:1SG said.3SG
 ‘{He/She}_i said that {he/she}_i will leave tomorrow.’

[Donno So] Culy (1994b): 114, (3)

¹⁰³This argument was partially discussed in §3.1.2.5 but only to make the point of difference with LDR languages. Second person is considered typologically rare in dedicated logophoric languages, and is outside the scope of this dissertation and left for future research. See Hyman and Comrie (1981) for a typological generalization with a person hierarchy that states: “the most likely or most basic, unmarked logophoric system is one which distinguishes [+/-LOG] on target 3rd person”. (p. 33). See also von Roncador (1992) for typological discussion of second person. However, the locus of cross-linguistic variation, i.e. the factors that determine whether a language encodes ‘logophoric’ second or first person are not investigated by these authors and, to my knowledge, not yet known.

The ungrammaticality of logophoricity with first person in (147a) illustrates the intrinsic property of logophoricity, identified since Hagège (1974), of representing a perspective different from that of the current speaker (or more conservatively, the current speaker or addressee). Therefore, even though speakers can retell their own words, as in (146), this crucially does not count as logophoric.

Another example comes from Ewe. The sentence below is also informative in that it makes a third person salient, but he is not an attitude holder.

- (148) ne-gblo na Kofi be e-du dyi
 1SG-told to Kofi that 3SG win
 ‘I told Kofi_i that he_i had won.’

[Ewe] Clements (1975): (30)

To conclude, the antecedent being an attitude holder is necessary but not sufficient and also being third person is necessary but not sufficient. It has to be both an attitude holder and a third person. In this way, logophoricity is a perspectival phenomenon in that it marks specifically a non-speaker perspective.

In §3.3.1, I show that the same holds of reportative evidentials: they represent non-speaker reported speech.

3.2.3 Two types of marking of indirect speech: lexical and functional

Above I presented the relation between logophors and indirect speech: logophoric pronouns represent a (non-speaker) attitude holder of indirect discourse. The presence of a logophoric pronoun alone, however, is not sufficient to invoke indirect speech, as Pearson (2015) shows with the following example:

- (149) *Yè dzo.
 LOG leave
 ≠ ‘She/he left.’

What are, then, the conditions for creating a speech report in dedicated logophoric languages? This subsection is devoted to answering that question by identifying two kinds of logophoric licensors: lexical matrix verb, §3.2.3.1 and a complementizer in the embedded clause (so-called *say*-complementizer), §3.2.3.2.¹⁰⁴

3.2.3.1 Lexical matrix verbs

We have already seen in the examples from logophoric languages thus far in this chapter that logophoric pronouns appear in the complements of predicates of communication, such as *say*. Stirling (1993) calls verbs which allow logophoric pronouns in their embedded clause LOGOCENTRIC verbs and I will use this term as well. Logophoric pronouns are “restricted to the embedded complement clauses of a set of LOGOCENTRIC VERBS which can be distinguished on a largely semantic basis. The set of logocentric verbs centrally includes verbs of reporting, and thus the dependent clauses in which logophoric pronouns are licensed are archetypally contexts of reported speech.” (Stirling, 1993: 52).

However, it is not only communicative verbs that allow the use of logophoric pronouns. A typological study of logophoricity by Culy (1994a), represented in Table 3.5, organizes attitude verbs into a hierarchy with respect to how logocentric they are, that is, their ability to license logophoricity across logophoric languages. The hierarchy has two layers to it: the first is in how many languages of the sample logophoric pronouns are attested in embedded clauses under the respective verbs. The second is whether logophoricity in that environment is optional or obligatory.

The typology has two extremes (where logophoricity is attested in all languages AND obligatory, and where logophoricity is not attested, i.e. impossible) and some middle ground (logophoricity is attested in some languages, and where it is, it is

¹⁰⁴Another strategy for licensing matrix logophoric pronouns — in the discourse of a coherent narrative — is briefly discussed in §3.3.2.1.

predicate of...	speech	>	thought, knowledge	>	direct perception
languages	all		some but not all		none
LOG pronoun is...	obligatory		optional		not possible

Table 3.5: A hierarchy of logophoric licensing predicates. The hierarchy is based on Culy (1994a): 1062, (9)-(10). The hierarchy is based not only on Culy’s example (9) but also on his discussion, which I have summarized in the third line. Outside of that discussion, the hierarchy may be not be fully understood.

optional). This means that the verbs can be set in three classes with respect to the property of logocentricity: logocentric verbs, non-logocentric verbs, and optionally logocentric.¹⁰⁵

In §3.3, I show that the distribution of predicates under which reportative evidentials embed is very similar to the hierarchy presented here.

3.2.3.2 *Say*-complementizers as logophoric licensors

In addition to lexical verbs, logocentricity in dedicated logophoric languages can be encoded by functional attitudinal elements, so-called *say*-complementizers, called also ‘reported speech openers’ (Hagège, 1974; Stirling, 1993). These are historically grammaticalized forms of the archetypal communicative verb: *say* (Clements, 1975; Sells, 1987; Hyman and Comrie, 1981; Koopman and Sportiche, 1989; Stirling, 1993, a.o.).¹⁰⁶

Say-complementizers are widely spread in dedicated logophoric languages.¹⁰⁷ This

¹⁰⁵Unfortunately, the middle ground is not well represented in the literature and the interpretations arising from the optionality of the logophoric forms are not systematically studied. It is shown in §3.3.2.2 that exactly such examples are particularly revealing with respect to evidentiality.

¹⁰⁶The first diachronic analysis is reported in Clements (1975); Sells (1987) to be by Lord (1976), which I have not accessed. For a recent detailed diachronic discussion see Güldemann (2008).

¹⁰⁷It would be interesting to see if LDR languages have some form of overt *say*-complementizers, too. Japanese potentially does, the reportative particle *to* has been traditionally viewed as a complementizer, see McCawley (1978); Watanabe (1984); Suzuki (1996, 2000); Koyama (2001), a.m.o., but

is noted as early as the first work on logophoricity, Hagège (1974), who calls them ‘openers’ (they introduce the embedded clause) and confirmed with numerous larger cross-linguistic studies of logophoricity since, notably Hyman and Comrie (1981); Culy (1994a); Güldemann (2008); Güldemann and von Roncador (2002), as well as many works on individual logophoric languages, e.g. Hyman and Comrie (1981) on Gokana, Culy (1994b) on Donno So.

What is the role of *say*-complementizers in logophoricity? Clements (1975) describes *say*-complementizers as follows: “[the *say*-complementizer] subcategorizes object clauses that characterize the thought [and] speech [...] of individuals other than the speaker-narrator; only in such clauses can an individual other than the speaker talk (or think) about himself.” (Clements, 1975: 169). Sells (1987) proposes that the *say*-complementizer “carries the force of speech” (p. 446) and the matrix verb is only of a secondary importance. That is, *say*-complementizers are logocentric, they create indirect speech environment.

The idea that *say*-complementizers are logocentric is further supported by the fact that in many dedicated logophoric languages, the matrix verb is optional, while the complementizer is obligatory, as noted by Hagège (1974) and explored in detail and with richer typological data in Frajzyngier (1996): §4.4. According to Frajzyngier (1996), “The optional absence of the verb of saying can be seen in all four branches [of Chadic]” (p. 125). This was already shown in example (143), but is further illustrated here from Mupun:

- (150) wu (**sat**) na i
 3M say COMP yes
 ‘He said yes/he agreed.’

[Mupun] Frajzyngier (1996): 125, (43)-(44)

for a view that *to* is not a complementizer, but a verb (head of VP projection) ‘say’ see Shimamura (2018). Park (2018) proposes a silent perspectival head high in the embedded clause for LDR in Korean, whose function is similar to (though more abstract than) that of *say*-complementizers.

To conclude, *say*-complementizers are logocentric, like matrix communicative verbs, by encoding reported speech. However, they are not full-fledged verbs, but functional material (complementizer). For example, Clements (1975) explicitly discusses the inflectional impoverishment of the *say*-complementizer *be* in Ewe. The following example illustrates the more restricted use of the *say*-complementizer than the lexical verb *say*: while the verb ‘say’ is optional when the report exists, as in (150), it cannot be dropped when the verb is in the future, such as in (151).¹⁰⁸

(151) ‘I will say that Kofi is at home.’

- a. ma-**gblo** **be** Kofi le afe me
PRO-T-say COMP Kofi be home in
- b. *ma-**be** Kofi le afe me
PRO-T-comp Kofi be home in

[Ewe] Clements (1975): (62a, 63a)

Clements (1975) also explicitly discusses the impoverishment not only of the morphology of *say*-complementizers, but also of their interpretation:

[...] a closer examination of the syntactic nature of the ‘complementizer’ *be* might be of interest. The examples [...] in this study illustrate two principal uses of this form: first, as an apparent main verb, synonymous with the verb *gblo* ‘to say, speak’ [...] and secondly, as a “complementizer” introducing tensed subordinate clauses. [...]

The strongest hypothesis is that *be* is a main verb in all occurrences. However, this hypothesis runs into difficulty. [...] While true main verbs take (with few exceptions) the full set of inflectional forms, *be* is highly restricted in this respect. [...] *Gblo* shows all the syntactic characteristics of main verbs, inflecting for tense, preverbs, and aspect. *Be*, on the other hand, is highly “defective”, inflecting for few if any of these forms. This

¹⁰⁸This is analogous to the discussion of how evidentials represent a report or observation that has occurred, and cannot represent a potential report or potential observation, see again §2.4.2.

is true not only when *be* is the sole verb in its clause, but also when it follows another verb.

Clements (1975): 166

The inflectional impoverishment of *say*-complementizers is well attested in logophoric languages, (Güldemann and von Roncador, 2002; Güldemann, 2008; Frajzyngier, 1996).

3.2.4 Discussion of the section

In the previous section, I discussed a number of properties that have been attributed to the notion of logophoricity from the point of view of LDR, and showed that they are not shared by logophoricity. In this section, I discussed three properties of logophoricity: indirect speech, non-speaker perspective, and licensing by a lexical or functional logocentric predicate.

Equipped with this understanding of the complex phenomenon of logophoricity as an attitudinal phenomenon (rather than restricted to pronouns, or to reflexivity), and together with the discussion of the nature of evidentiality as an attitudinal phenomenon in Chapter §2, we can now get to the hypothesis that there is a relation between evidentiality and logophoricity.

3.3 Logophoric properties of reportative evidentials

In the previous section I showed three properties of logophoric languages: indirect speech report, which is carried out by a light attitude *say*-complementizer in the embedded clause, the antecedent of the logophoric pronoun is an attitude holder of the speech report, and a perspectival restriction on the attitude holder in that it cannot be

the present speaker. Here I show that reportative evidentials in evidential languages share these properties with logophoric languages. In §3.3.1 I show that evidentials are indeed perspective sensitive, and that reportative evidentials require attitude holders, like the source requirement on logophoric antecedents. In §3.3.2 I specify that reportative evidentials are logocentric, i.e. they are like *say*-complementizers. I also offer an explanation of some of the distributional differences between evidentials and *say*-complementizers.

These properties of reportative evidentials and the relevant data presented in this section, to my knowledge, have not been discussed in the literature on evidentiality. I present data from three genetically and geographically unrelated languages: Bulgarian (Slavic), Azeri (Turkic), and Tagalog (Austronesian). Two of these languages, Azeri and Bulgarian, have non-dedicated evidentiality, while Tagalog has dedicated evidentiality, and yet they all share these properties. This suggests that these properties are not an accidental quirk of one single language, but are important, cross-linguistically valid properties of evidentiality.

Finally, I also show that direct evidentials do not have the properties that reportative evidentials and logophoric languages share. This is evidence against the common view in the literature that all evidentials have the same formal properties and therefore warrant a unified analysis.

3.3.1 Evidentiality is perspectival

Here I show that evidentiality is a perspectively-sensitive phenomenon in ways similar between reportative evidentials and logophoricity, but different in direct evidentials.

First (§3.3.1.1), just as logophoric pronouns carry the semantic role of attitude holder and not a syntactic dependency (e.g. matrix subject), so do reportative evidentials. Direct evidentials, on the other hand, represent experiencers.

Furthermore, reportative evidentials share the perspectival restrictions discussed in the previous section with respect to logophoricity, §3.3.1.2. Direct evidentials are

also perspectivally restricted, but they show the opposite behavior: they are restricted to the current speaker, §3.3.1.3.

This means that evidentials are parametrized not only in terms of type of ‘evidence’ (saying, seeing, etc), but also with respect to whose perspective they represent and what thematic roles the perspective holder can have: direct perception evidentials represent the speaker’s experiencer perspective, while reportative evidentials represent a non-speaker attitude holder perspective, as logophoricity does.

3.3.1.1 The thematic roles of evidentials

One of the properties of logophoricity discussed in the previous section was that logophoric markers refer to a person who carries the semantic role of an attitude holder, usually of indirect speech, as opposed to, for example, a grammatical role such as subject. Reportative evidential markers, too, refer to a semantic attitude holder and not a syntactic role. This is illustrated in the examples below, (152) repeated from (145) for logophoricity, and the analogous evidential example in (153), which show that when the matrix predicate is one of communicative reception, such as *hear*, and the attitude holder is an oblique syntactic object rather than a subject, the logophor/evidential still refers to the attitude holder.

- (152) ao-se tso Kofi gbo be **yè-ko** nunana
PRO-hear from Kofi side *say*-COMP LOG-receive gift
‘I heard from Kofi_i that he_i had received a gift.’

[Ewe] Clements (1975): 158, (44)

- (153) Chuh ot Reni, che **zavaljalo**.
heard from Reni that start.rain.REP
‘I heard from Reni that it started raining.’

→ Reni said that it started raining

[Bulgarian]

Direct evidentials, on the other hand, represent experiencers, not attitude holders.

- (154) **Zavalja.**
 start.rain.DIR
 ‘It started raining’ (the speaker experienced it)
 [Bulgarian]

These differences in the thematic determination of communicative functional attitudes, on the one hand, and perceptual ones, on the other, may be the locus of explanation of their different distribution in embedded clauses, which is presented in §3.3.1.2 and §3.3.1.3.

3.3.1.2 Perspective in reportatives patterns with logophoricity

The person restriction observed in dedicated logophoric languages discussed in the previous section, in §3.1.2.5, consisted in that logophoric pronouns in most languages that have them are only felicitous when the matrix attitude holder is not a current conversational participant, most importantly not the current speaker.

Now we see that this perspectival restriction holds also in evidential languages. This is illustrated by two sets of minimal pair examples, varying the matrix predicate (communicative *vs* perceptual) and the person of the matrix attitude holder.

3.3.1.2.1 Perspectival restriction of reportatives and logophors embedded under communicative predicates

The first set of examples share the same matrix predicate (logocentric, i.e. communicative predicate, such as *say*) and have a logophoric pronoun in logophoric languages, (155) or reportative evidential in evidential languages, (156)-(157). What they vary is the matrix person: third person in the (a) examples and first person in the (b) examples. The three examples show that, in sentences embedded under a communicative matrix predicate, an embedded logophor, (155a), or an embedded reportative evidential, (156a), (157a), is grammatical with a third person matrix subject but ungrammatical with a first person matrix subject ((155b) for logophors and (156b), (157b) for reportative evidentials).

(155) **Logophoric language, matrix communicative predicate:**

- a. **Yo** **inyem**ε yogo boojem gi
 3SG LOG tomorrow go-PRG:1SG said.3SG
 ‘{He/She}_i said that {he/she}_i will leave tomorrow.’
- b. ***Mi** **inyem**ε yogo bojem gim
 1SG.SUBJ LOG tomorrow go-PRG:1SG said.1SG
 Intended: ‘I said that I will leave tomorrow.’

[Donno So] Culy (1994b): 114, (3)

(156) **Evidential language (non-dedicated evidential), reportative evidential and matrix communicative predicate:**

- a. **Reni** kaza, che **zavaljalo**.
 Reni said that rain.REP
 ‘Reni said that it started raining.’
- b. ***Az** kazah, che **zavaljalo**.
 I said that rain.REP
 Intended: ‘I said that it started raining.’

[Bulgarian]

(157) **Evidential language (dedicated evidential), reportative evidential and matrix communicative predicate:**

- a. S<in>abi **niya** na gusto **daw** ni Lemuel si Dennis.
 <PFV>say(PV) 3SG.GEN C like REP GEN Lemuel NOM Dennis
 ‘He said that Lemuel likes Dennis.’
- b. *S<in>abi **ko** na gusto **daw** ni Lemuel si Dennis.
 <PFV>say(PV) 1SG.GEN C like REP GEN Lemuel NOM Dennis
 Intended: ‘I said that Lemuel likes Dennis.’

[Tagalog]

The person restriction, to my knowledge, has not been reported in existing works on evidentiality, and is not predicted/generated by the existing formal accounts on evidentiality discussed in Chapter §2 (in §2.2).¹⁰⁹ The modal approach, e.g. Izvorski, 1997; Matthewson et al., 2007, presented in §2.2.1, would overgenerate (156b) to be possible because epistemic modals do not have a person restriction:

- (158) a. I think that it might be raining.
 b. Mike thinks that it might be raining.

While potential updates of these theories may be possible, they would have to treat the person restriction as an accidental quirk, missing out on the connection between evidentiality and logophoricity.

The illocutionary operator view (Faller, 2002; Murray, 2010a, a.o.) presented in §2.2.2 would predict that neither (156b), nor (156a) would be possible for purely syntactic reasons: evidentials do not embed. So it not only undergenerates the grammatical sentence (156a), but it prevents the ungrammatical (156b) for the wrong reason, attributing it to a general unembeddability.

On an alternative take on the illocutionary hypothesis, the original formulation of the illocutionary approach could be relaxed in order to factor in the possibility of embedding of speech acts (see again the discussion on this in §2.3.2.1 in the previous chapter). The embedded data would be allowed and in need of a new explanation. The one illocutionary account that factors in a person restriction is Faller (2002) (see again §2.2.2.1). Faller (2002) builds in a non-speaker and non-addressee perspective in the definition of the illocutionary relation speech act PRESENT, which is introduced to capture reportative evidentials.

¹⁰⁹Varley (2014) draws a connection between evidentiality and logophoricity with respect to person, but only in terms of the morphological realization of the reportative evidential in Bulgarian, which lacks an overt auxiliary in the case of third person, but has it in other persons. She does not discuss embedded evidential clauses.

Given the discussion of logophoricity in the previous section, one may wonder if logophoricity could also be represented by the speech act **PRESENT**, or the similar restrictions are to be attributed to different, more general factors underlying both phenomena. My proposal will be in the spirit of the latter idea.

Furthermore, the examples above also show that both evidential languages with non-dedicated, ‘perfect of evidentiality’ evidentials (Bulgarian) and those with dedicated evidentials (Tagalog) share the perspectival restriction property, thus once again advocating for a unified view of evidentials of different morphosyntactic representation, in addition to the arguments against it presented in §2.3.

3.3.1.2.2 Perspectival restriction of reportatives and logophors embedded under direct perception predicates

The set of examples above show that logophoric pronouns and reportative evidentials behave in the same way under communicative predicates (i.e. logocentric predicates). The next set of examples shows that they are also parallel under non-logocentric predicates under the hierarchy of Culy (1994a) presented in Table 3.5, which include direct perception predicates, such as *hear*, *see*. Compared to examples (155)-(157) above, examples (159)-(160) vary the matrix predicate.¹¹⁰ They show that, just as direct perception (‘non-logocentric’) predicates are incompatible with logophoric pronouns in logophoric languages, (159), they are also incompatible with reportative evidentials in evidential languages, illustrated here with Bulgarian (160a), Tagalog (160b), and Azeri (160c).

(159) Logophoric language with direct perception matrix predicate:

Kofi **se** Koku **wó/*yè**-no e diu-m
 Kofi hear Koku PRO/LOG PRO insult-A

¹¹⁰Note that the predicate *hear* could have communicative use, meaning ‘person *x* heard person *y* utter sentence *S*. Such readings of the verb *hear* allow both logophors in logophoric languages (Clements, 1975), as well as reportative evidentials in evidential languages Ozyıldız et al. (2018), see examples (152)-(153) in §3.3.1.1. Therefore, exclusively the perceptual use of the verb *hear* is considered here.

‘Kofi_i heard Koku insulting him_i.’

[Ewe] Clements (1975): (40)¹¹¹

(160) **Evidential languages with direct perception matrix predicate:**

- a. *Yavor **vidja**, che **zavaljalo**.

Yavor saw that rain.REP

Intended: ‘Yavor saw that it started raining.’

[Bulgarian]

- b. ***Nakita** ni Willie na tumalon **daw** si Carlo

Saw GEN Willie C jumped REP NOM Carlo

Intended: ‘Willie saw that Carlo jumped.’

[Tagalog]

- c. *Ayşe-yi tor-un ũstũ-dan atlan-ar-ken **gördũm miş**

Ayşe-ACC fence-DAT over-DAT jumped saw REP

Intended: ‘I saw that Ayşe jumped over the fence.’

[Azeri]

Unlike the perspectival restriction under communicative verbs presented above, the unavailability of reportative evidentials under perceptual predicates has been occasionally descriptively acknowledged in the literature (with cross-linguistic evidence in Aikhenvald, 2004, see also Sauerland and Schenner, 2007, 2013 particularly on Bulgarian), but it has not been related to the phenomenon of logophoricity, or explained or formalized in other, independent ways, either.

To sum up, reportative evidential markers have the hallmark property of logophoricity: non-speaker perspective and dependence on a communicative (‘logocentric’) predicate. Next I show that direct evidentials also have a perspective restriction, but different from that of reportative evidentials or logophoricity: they exclusively represent the speaker’s perspective.

¹¹¹The judgements of (159) are on p. 156 in Clements (1975).

3.3.1.3 Direct evidentials represent the speaker's perspective

Direct evidentials differ from what was found for logophors and reportative evidentials in terms of both what predicates they embed under and whose perspective they represent.

First, directs differ from reportatives and logophors in terms what predicates they embed under. Reportatives and logophors are allowed under logocentric (e.g. communicative) predicates, as shown in (161) (repeated from (155a) and (156a)) and disallowed under non-logocentric predicates, as in (162) (repeated from (159)).

(161) Logophoric pronoun (a) and reportative evidential (b) under matrix communicative predicate with third person subject:

- a. **Yo inyem**ε yogo boojeεm gi.
 3SG LOG tomorrow go-PRG:1SG said.3SG
 ‘{He/She}_i said that {he/she}_i will leave tomorrow.’
 [Donno So] Culy (1994b): 114, (3)
- b. **Reni kaza**, che **zavaljalo**.
 Reni said that rain.REP
 ‘Reni said that it started raining.’
 [Bulgarian]

(162) Logophoric pronoun (a) and reportative evidential (b) with direct perception matrix predicate:

- a. *Kofi **se** Koku **yè-no** e diu-m.
 Kofi hear Koku PRO/LOG PRO insult-A
 ‘Kofi_i heard Koku insulting him_i.’
 [Ewe] Clements (1975): (40)¹¹²
- b. *Yavor **vidja**, che **zavaljalo**.
 Yavor saw that rain.REP
 Intended: ‘Yavor saw that it started raining.’
 [Bulgarian]

¹¹²The judgements of (159) are on p. 156 in Clements (1975).

Direct evidentials have the opposite distribution: they are not allowed under logocentric predicates and are allowed under non-logocentric predicates:

(163) Direct evidentials under non-logocentric predicates (a) and under logocentric predicates (b):

- a. Az **vidjah** che **zavalja**.
I saw.DIR.1SG that rain.DIR.3SG
'I saw that it started raining.'
- b. *Az **kazah**, che **zavalja**.
I said that rain.DIR.3SG
intended: 'I said that it started raining.'

[Bulgarian]

Secondly, direct evidentials differ from reportative evidentials and logophoric pronouns in significant ways in terms of perspective. When reportatives and logophors are allowed, only third person matrix attitude holder perspective is possible, (161), and first person perspective is not possible, as shown in (164).

(164) Logophoric pronoun (a) and reportative evidential (b) under matrix communicative predicate with first person matrix subject:

- a. ***Mi** **inyemε** yogo bojem gim.
1SG.SUBJ LOG tomorrow go-PRG:1SG said.1SG
Intended: 'I said that I will leave tomorrow.'

[Donno So] Culy (1994b): 114, (3)

- b. ***Az** **kazah**, che **zavaljalo**.
I said that rain.REP
Intended: 'I said that it started raining.'

[Bulgarian]

Direct evidentials, on the other hand, when allowed (i.e. under non-logocentric predicates, as shown in (163)), can only represent the perspective of the current speaker and cannot represent a third person perspective, as shown in (165).

(165) Direct evidentials under matrix non-logocentric verbs with a first person subject (a) and a third person subject (b):

- a. **Az** vidjah, che **zavalja**.
 I saw.DIR.1SG that rain.DIR.3SG
 [OK] ‘I saw that it started raining.’

- b. **Yavor** vidja, che **zavalja**.
 Yavor saw.DIR.3SG that rain.DIR.3SG
 ‘Yavor saw that it started raining.’
 → The speaker observed the raining
 ↗ Only Yavor observed the raining

[Bulgarian]

While the reportative is banned under a first person perspective, shown in (164b), presumably because it encodes third person perspective, the direct evidential is grammatical even when the matrix subject is a third person, as in (165b), and preserves its perspectival orientation to the current speaker regardless of the matrix subject.

These data show that direct and reportative evidentials differ in a number of significant ways which directly affect their syntactic distribution.

As was the case with the properties of reportative evidentials presented in §3.3.1.2, existing theoretical proposals on evidentiality (reviewed in Chapter §2) do not predict the differences between reportative and direct evidentials demonstrated here, in addition to not predicting any relation between evidentials and logophoricity.¹¹³

¹¹³ Faller (2002) encodes a difference in perspective, but only for matrix clauses, and proposes a pragmatic account of it, with no reference to syntactic effects or to logophoricity.

3.3.2 Reportative evidentials are logocentric

In the previous section, §3.2, we have seen that one of the hallmark properties of logophoricity involves functional logocentric markers, so-called *say*-complementizers. The concept of *say*-complementizers fits the notion of functional attitude verb, which I introduced in Chapter §2 with respect to evidentiality.¹¹⁴ Under that view, reportative evidentials are a functional version of the verb ‘say’. In Section §3.2.3.2, we saw that *say*-complementizers in logophoric languages also have communicative attitude import, like lexical communicative predicates, but at the same time they are functional linguistic elements, not full-fledged verbs (they are complementizers, not in complementary distribution with lexical verbs, and do not inflect for tense and mood). Regarding reportative evidentials and *say*-complementizers as the same linguistic element predicts all the similarities presented above in §3.3.1.

Here I discuss one case where logophoricity and evidentiality seemingly diverge — matrix clauses, discussed §3.3.2.1. I offer an explanation for it that is in line with the functional attitude hypothesis. Then in §3.3.2.2, I present another property of reportative evidentials that is predicted by the functional attitude hypothesis and has not found a satisfying explanation in the literature: their interpretation under predicates other than *say*.

3.3.2.1 Reportatives and logophors in matrix clauses

One difference between logophoricity and evidentiality is that reportative evidentials are freely allowed in matrix declarative clauses, as shown in (167), while logophors are mostly not allowed, (166b) (non-logophoric personal pronouns are used, (166a)). Note immediately, however, that reportative evidentials, even in matrix clauses, preserve their logophoric perspectival properties discussed above in §3.3.1: they represent a third-person attitude holder (what Sells, 1987 called SOURCE with respect to lo-

¹¹⁴Note that nothing in that definition of functional attitude restricts it to evidentiality.

gophoricity).¹¹⁵

(166) **Logophoric language:**

- a. **E** dzo.
3SG leave
'S/he left.'
- b. ***Yè** dzo.
LOG leave
(i) ≠ 'I left.'
(ii) ≠ 'She/he left.'

[Ewe] Pearson (2015): (4), (2), (ii)

(167) **Evidential languages:**

- a. **Zavaljalo**.
rain.REP
'Reportedly, it started raining.'
(i) = Someone (not me) said that it started raining.
(ii) ≠ I said that it started raining.

[Bulgarian]

- b. Umuulan **daw**.
rain REP
'Reportedly, it's raining.'
(i) = Someone (not me) said that it's raining.
(ii) ≠ I said that it's raining.

[Tagalog]

This difference is not problematic for the view defended in this chapter, that there is a relation between reportative evidentials and logophoric pronouns. The

¹¹⁵This detail about the interpretation of evidentials in matrix clauses is, to my knowledge, only noted by Faller (2002).

difference between (166) and (167) is predicted by the discussion so far as follows: reportative evidentials are functional attitudes and therefore they are sufficient to induce a speech report. The standard explanation why matrix examples like (166) are not grammatical with a logophoric pronoun, (166b) is that there is no speech report in whose scope the logophoric pronoun can appear (Pearson, 2015: 177). To elaborate Pearson’s finding in the context of the discussion on logophoricity in §3.2, example (166) also confirms that logophoric pronouns alone are not sufficient to induce a speech report reading. They need to be licensed by a logocentric light attitude, such as *say*-complementizers, but since *say*-complementizers also carry the function of clausal subordinators, they are not allowed in matrix clauses for morphosyntactic reasons (cf. the ungrammatical **That it’s raining* — it cannot function as a matrix clause).

However, logophoric pronouns are disallowed only in matrix clauses that are uttered out of the blue. In matrix clauses that are part of a larger coherent storyline, logophoric pronouns are allowed, as has been well known in the descriptive literature on logophoricity starting with the very work that first described the logophoric phenomenon, Hagège (1974) (see also Clements, 1975; Stirling, 1993; Frajzyngier, 1996; Dimmendaal, 2001). Hagège (1974) writes:

one elderly informant, while telling us the origin of his clan, told us, thirteen minutes after the initial passage which contained an introductory verb (“My elders taught me that...”):

(168) sa:ra dus so
 LOG disperse then
 ‘Then they scattered.’

Hagège (1974): 298

If the *say*-complementizer were not a syntactic subordinator, but merely a logocentric marker, we would expect it to show up in such cases. And this is exactly what

we observe in evidential languages: in a coherent storyline that introduces a report source, reportative evidentials do not refer to independent reports from independent sources, but to the one coherent report (regardless of its size) from the source identified in the beginning (Aikhenvald, 2004; Murray, 2010a). This is illustrated here with (169), repeated from (79) in §2.4.1.2.

- (169) éšee-va ná-éstsestov-o-∅ Dale. é-h'o'taheva-**sestse** Annie.
 day-OBL 1-speak.to.s.o-1:3-DIR Dale 3-win-REPORTATIVE-3SG Annie
 ‘Yesterday I spoke to Dale. [He (‘he’=‘Dale’) says that] Annie won.’
 [Cheyenne] Murray (2010a): (5.19)

Finally, examples (166) and (167) also confirm that both logophors and reportative evidential markers preserve their perspectival restrictions of obligatory non-speaker perspective. A prediction that follows from the claims on perspective in sections §3.2.2 and §3.3.1 is that logophors and reportative evidentials should not be able to represent the speaker’s perspective in main clauses, and (166) and (167) show that it is borne out. This means that the discussions on their perspectival restrictions that were motivated with embedded clauses in §3.2.2 and §3.3.1 are not some idiosyncratic consequences of embedding, but are consistent across constructions and hold also in matrix clauses.

To my knowledge, this observation has not been made before in the literature, just as the person restriction in embedded clauses has not been discussed. If the reportative marker was not logophoric, or at least not in matrix clauses, there would be nothing preventing it from being interpreted as ‘I said that it’s raining’ at least in a matrix clause, which is not possible, as shown in (167a-ii), (167b-ii), and consistent with the perspectival restrictions of dedicated logophoric pronouns, (166b-i).

The interpretation of reportative evidentials in questions also supports the idea that the behavior of logophors and reportative evidentials may not be as different as it first seemed from (166) and (167).¹¹⁶ Reportative evidentials in questions (at

¹¹⁶While I am not aware of data with logophoricity in questions, which is a limitation to this

least in Bulgarian) show the same ‘no out of the blue but ok within a storyline’ restriction that is well known for logophors in declarative clauses.¹¹⁷ The question with a reportative evidential in (170) is felicitous because its interpretation is within the overall storyline, approximately meaning: ‘within the story, what did she do?’.¹¹⁸

(170) **Context:** Mother is reading the Little Red Riding Hood fable to her child.

At a moment when the mother pauses to raise the suspense, the child asks:

I kakvo **napravila** Chervenata Shapchitsa togava?
and what did.REP Little Red Riding Hood then
‘And what did Little Red Riding Hood do afterwards? (within the
story)’

[Bulgarian]

This reading is quite different from the interpretation of reportative evidentials in questions presented in what scarce literature there is on that topic, notably Murray (2010b). Murray’s interpretation is presented in (171) and would roughly translate into ‘according to your reportative evidence, what did Little Red Riding Hood do?’ for (170), which is not a felicitous interpretation in Bulgarian.

(171) Mó=é-némene-**sestse** Floyd?
y/n=3-sing-RPT.3SG Floyd
‘Given what you heard, did Floyd sing?’

a. A1: ✓yes, 3-sing-**RPT**

b. A2: # yes, 3-sing-**DIR**

[Cheyenne] Murray (2010b): (8)

argument in that it does not provide a minimal comparison, I hope it is at least worth considering.

¹¹⁷To my knowledge, this observation has not been previously reported in the literature on evidentiality. Şener (2011) discusses an out of the blue constraint, but not in terms of questions.

¹¹⁸The effect cannot be attributed to the storytelling context in (170) because it also holds in non-literary contexts, e.g. retelling of reported stories, rumors, news from the papers, family stories passed on to generations, etc.

On the other hand, the conversational responses that Murray (2010b) provides for the Cheyenne example in (171) are consistent with my judgements for the storyline-licensed reportative questions in Bulgarian. If I ask the question in (170), I would expect to hear a reportative evidential in the reply, as schematized for Cheyenne in (171a), and not a direct evidential, consistent with (171b). But in the case of Bulgarian, the same response pattern is motivated independently directly from the context.

That an out of the blue sentence with a reportative evidential and no context, analogous to the one presented in (171) for Cheyenne, is not felicitous in Bulgarian, is demonstrated in (172).

- (172) #Deteto kak **poneslo** patuvaneto?
 child.DEF how handle.REP trip.DEF
 ‘How did the child handle the trip (assuming that you were told about it)?’
 [Bulgarian]

To sum up, the discussions here suggest that even the seeming empirical difference between logophors and reportative evidentials in matrix clauses can be derived from the views of them advocated in this dissertation.

3.3.2.2 Reportatives under verbs other than *say*

Reportative evidentials preserve their speech report contribution even when embedded under an attitude verb that is not communicative. Example (173a) shows that the sentence with a reportative evidential under the verb *think* necessarily contributes a speech report. If there is no report, the evidentially neutral form is used, (173b).¹¹⁹

¹¹⁹A direct evidential — which, as shown in §3.3.1.3, represents only speaker perspective — is predicted to be not possible here, and example (i) shows that this prediction is borne out.

- (i) *Yavor misli, che valeshe.
 Yavor thinks that rain.DIR

- (173) a. Yavor misli, che **valjalo**.
 Yavor thinks that rain.REP
 ‘Yavor thinks that it’s raining (he said so).’
 → Yavor **said** that it’s raining or that he thinks it’s raining.
- b. Yavor misli, che **vali**.
 Yavor thinks that rain.3SG.PRES
 ‘Yavor thinks that it’s raining.’
 ↗ Yavor **said** that it’s raining or that he thinks it’s raining.
- [Bulgarian]

These findings are supported also with analogous data from Tagalog, (174), and Azeri, (175).¹²⁰

- (174) a. Palagay ni George na mananalo **daw** ang
 hold.opinion GEN George LK/COMP win.FUT REP NOM
 Conservative Party sa halalan.
 conservative party OBL election
 ‘George thinks that the Conservative party will win in the election.’
 → George **said** that the C. party will win.
- b. Palagay ni George na mananalo ang Conservative
 hold.opinion GEN George LK/COMP win.FUT NOM conservative
 Party sa halalan.
 party OBL election
 ‘George thinks that the Conservative party will win the election.’
 ↗ George **said** that the C. party will win.
- [Tagalog]

¹²⁰Cf. also another predicate in Tagalog:

- (i) Naniniwala si Nenita na nakakakita (**daw**) si Jenilyn ng multo
 believe nom Nenita that able.to.see REP nom Jenilyn gen ghosts
 ‘Nenita believes (and also said) that Jenilyn can see ghosts.’

- (175) a. Mahsa diyir belke yagis yag-ir-**miş**
 Mahsa thinks that rain fall-DUR-REP
 ‘Mahsa thinks that it’s raining.’

→ Mahsa **said** that it’s raining or that she thinks it’s raining.

- b. Mahsa diyir belke yagis yag-ir
 Mahsa thinks that rain fall-DUR
 ‘Mahsa thinks that it’s raining.’

↗ Mahsa **said** that it’s raining or that she thinks it’s raining.

[Azeri]

The following example shows that both direct and reportative evidentials are possible with the emotive factive predicate *be.angry*, unlike the case of *say* and *think*, where the direct evidential is not allowed (more discussion in §5.2.3).

- (176) Direct and reportative evidential under *be.angry*

Reni e **yadosana**, che {✓**zavalja**/✓**zavaljalo**}.
 Reni is angry that start.rain.DIR/REP
 ‘Reni is angry that it started raining.’

All observed patterns discussed so far are summarized in Table 3.6 below. The results strongly allude to Culy’s hierarchy of logocentric predicates presented in §3.2.3.1 and repeated in Table 3.7: logophors are allowed under *verba dicendi* and occasionally under *verba sentiendi* and factives, where they are optional, and not allowed under direct perception verbs. To my knowledge, the observations on the interpretation of reportative evidentials presented here have not been noted in the literature on evidentiality. While it is clear that much more work is needed into both logophoricity and evidentiality to better document and understand these patterns, they are already showing both promising similarities (e.g. the logocentric hierarchy) and plausible explanations of their differences (e.g. *say*-complementizers only appear in embedded clauses because they are also syntactic clausal subordinators, while evidentials are

found in both matrix and embedded clauses because they do not have subordinating function).

	direct	reportative
<i>say</i>	no	yes
<i>think</i>	no	yes
<i>see</i>	yes	no
<i>be.angry</i>	yes	yes

Table 3.6: What predicates take what evidentials in their complements in Bulgarian

predicate of...	speech	>	thought, knowledge	>	direct perception
languages	all		some but not all		none
LOG pronoun is...	obligatory		optional		not possible

Table 3.7: A hierarchy of logophoric licensing predicates, based on Culy (1994a): 1062, (9)-(10).

3.4 Conclusion of the chapter

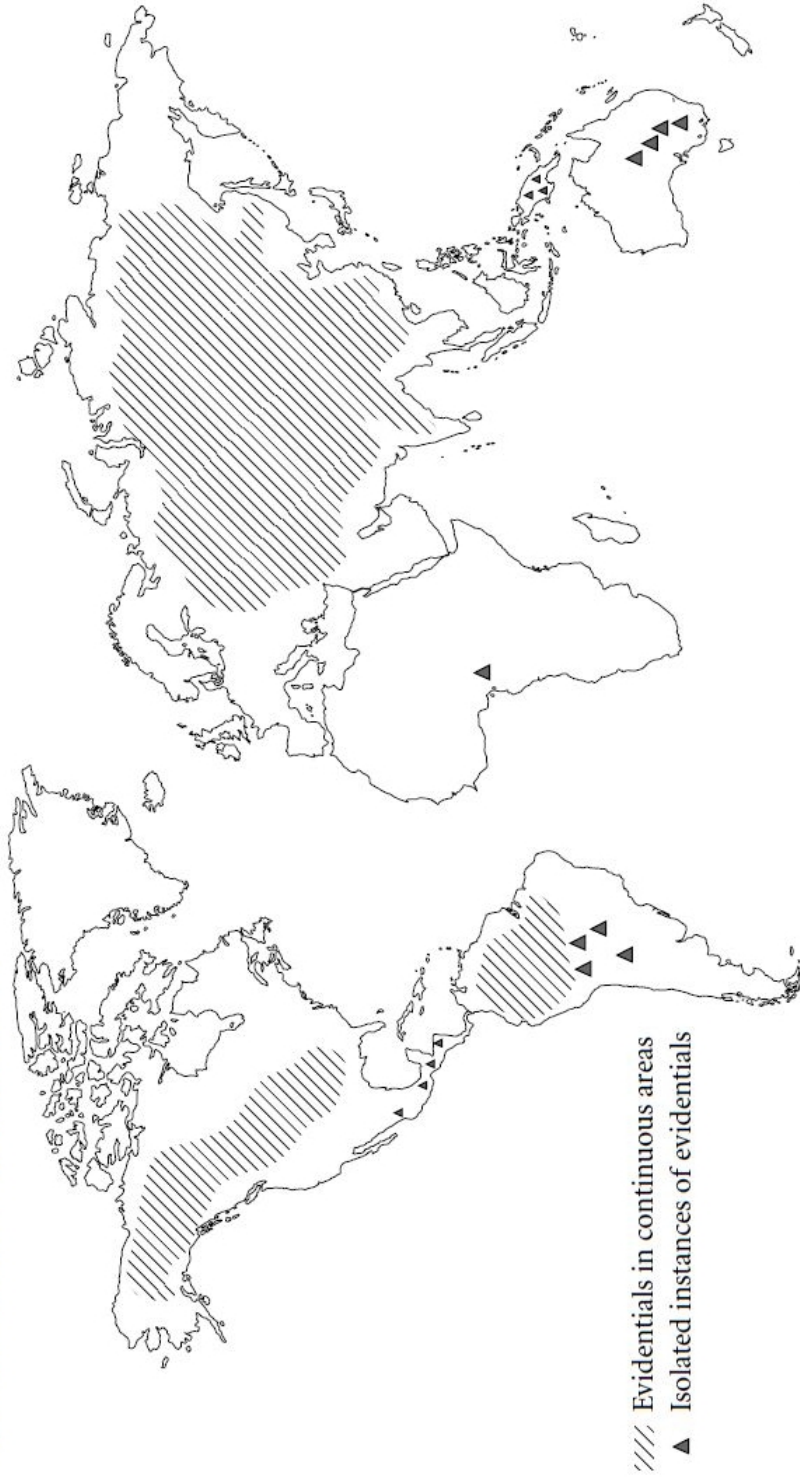
In this chapter, after discussing some methodological shortcomings of existing views on the properties of logophoricity (§3.1), I proposed that there is a relation between the basic properties of logophoricity (§3.2) and reportative evidentiality (§3.3). I specified that the relation is not between reportative evidentials and logophoric pronouns, but between reportative evidentials and logocentric *say*-complementizers: they are both functional attitudes that represent the archetypal communicative verb, *say*.

I am not aware of any existing literature suggesting such a relation. In fact, if we look again at the geographical map of the distribution of evidentiality presented in Figure 2.2 in the beginning of this dissertation and repeated here as Figure 3.2, we see that typologically, evidential and logophoric languages are in complementary distribution: evidentiality is a widely spread and well attested and documented phenomenon in the languages of the Americas, Europe, and Asia but not attested at all in Africa (Aikhenvald, 2004).¹²¹ Logophoricity, on the other hand, is only found in Africa, and widely spread there across the Macro-Sudan area presented in the map in Figure 3.1 (Frajzyngier, 1996; Güldemann, 2008). These two phenomena, then, are indeed in typological complementary distribution striking in its scope and magnitude. Under the functional attitude paradigm proposed in this dissertation, this distribution finds explanation in that they are two morphosyntactic variations of the same underlying linguistic object: functional *say*. This predicts the similarities between *say*-complementizers and reportative evidentials, such as the perspectival restrictions described in this chapter.

To my knowledge, the observations on the interpretation of reportative evidentials presented here have also not been discussed in the existing literature on evidentiality.

¹²¹I have omitted Australia from the list because, while logophoricity is not attested there, evidentiality according to Aikhenvald (2004) is not as widely spread as is known for the other continents, but as of the time of her 2004 volume, only about 20 ‘isolated instances’ have been found. What functional attitude phenomena exist in Australia remains an open question.

Evidentials Worldwide: Areal Distribution



NOTE TO THE MAP: The Purpose of this Map is to give a rough picture of the loci of major concentration of evidentials throughout the world. It is schematic because of the lack of precise information in many instances, and debatable interpretations of existing systems. A more precise map can only be done once we learn more about the types of systems in numerous languages of South and North America, Mexico, Eurasia (especially Tibeto-Burman speaking area), New Guinea, and Africa.

Figure 3.2: Map of the distribution of languages with evidential marking in the world, by Aikhenvald (2004): p. 302. Reproduced with the consent of the author.

The reason may be that the questions that led to uncovering the properties presented here could not have been asked in the illocutionary-modal paradigm. These questions could only arise in the functional attitude paradigm, and this chapter shows that pursuing them is fruitful and contributes novel observations that can lead to a better understanding of evidentiality.

In the next two chapters, I present a syntactic (§4) and a semantic (§5) model for capturing functional attitudes formally.

Chapter 4

The syntax of light attitudes

In Chapter §2, I argued that the existing theoretical paradigms used to model evidentiality have not succeeded in capturing its nature or predicting its syntactic and semantic behavior. I outlined a different starting point from which to study evidentiality: encoding it in functional attitudes (as opposed to epistemic modals or illocutionary operators).

In Chapter §3, I showed that the functional attitude paradigm generates fruitful research questions and showcases a number of parallels between evidentiality and logophoricity, such as the attitudinal sensitivity of evidentials (e.g. matrix attitude verbs determine which evidentials are allowed in the embedded clause) and their perspectival restrictions (direct evidentials can only represent the current speaker’s perspective, while reportatives can only represent another speaker’s perspective). None of these properties are predicted by any of the existing theoretical views on evidentiality.

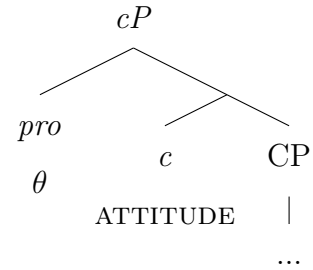
Here and in the next chapter, I propose a formal account of light attitudes that is specific enough to capture the properties and data presented above, while staying as open-ended, neutral, and general as possible in order to accommodate future findings.

In this chapter, I introduce the syntactic formalization of the proposals developed in the previous two chapters. The main ingredients of my analysis are as follows.

First, functional attitudes, including *say*-complementizers and evidentials, reside in a generic (as opposed to evidential-specific or logophoric-specific) complementizer projection that hosts abstract perspectival phenomena (lexical attitude verbs are still assumed to be hosted in *vP*). The projection is always present in the syntactic spine and is higher than CP — more specifically, it selects CP. It is possibly the highest functional projection in the clausal spine. I label this syntactic position *cP*, a label introduced by de Cuba (2007) (see recently de Cuba, 2017). The label is inspired by analogies with other ‘little’ syntactic projections, especially *vP*, which *cP* shares a number of properties with.¹²² Notably, *cP* has argument structure and head valency. The head discharges a theta role to its specifier, i.e., Spec, *cP* is an A-position, similarly to Spec, *vP*.

The general schematic structure of *cP* is presented in (177).

(177) **Generic form of the proposal:**

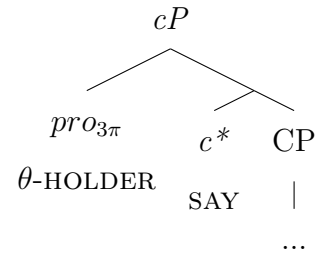


Different *c*-heads discharge different theta roles to their specifier. With this structure, the notions of logophoricity and reportative evidentiality are de-constructed into two parts, both contained within *cP* and representing its different ‘flavors’: a communicative attitude *c*-head with a thematic attitude holder argument in its specifier that is syntactically restricted for third person, as schematized in (178a). Analogously, direct evidentials are represented by a perceptual predicate head with a first person thematic experiencer argument in its specifier, as in (178b).

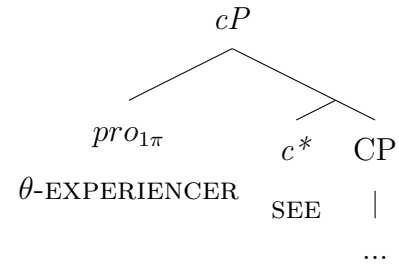
¹²²In what follows, I draw more parallels between *vP* and *cP* than de Cuba (2007) does.

(178) **Flavors and head valency:**

- a. Reportative and logophoric c^* :



- b. Perceptual evidentials, SEE, HEAR, PERCEIVE:



4.1 Light attitudes are complementizers

I have shown so far that *say*-complementizers and reportative evidentials are in a typological complementary distribution and I proposed that they are two morphosyntactic instantiations of the same underlying linguistic object: functional, or ‘light’ attitudes. Now I address the question of how to model light attitudes in the syntax. I propose that various functional attitudes, such as evidentials, *say*-complementizers, and potentially other perspectival phenomena, occupy the same functional syntactic projection: they are perspectival complementizers. I assume that *say*-complementizers are the overt manifestation of a perspectival complementizer, and argue that forms that

overtly surface in other morphosyntactic domains, such as non-dedicated evidentials, are covertly interpreted in the perspectival complementizer position. I present two arguments for this: one from the typology of the morphosyntactic representation of evidentials (§4.1.1) and one from the semantic interpretation of evidentials (§4.1.2).

/

4.1.1 Cross-linguistic syntactic evidence

As discussed in Chapter §2, evidential markers are morphosyntactically manifested in a variety of ways across languages. There are what I have referred to as NON-DEDICATED evidentials (this term corresponds to EVIDENTIAL STRATEGIES in Aikhenvald, 2004) where an evidential meaning can be conveyed via morphology that also has other meanings, such as aspect (Izvorski, 1997), tense (Molochieva, 2007), mood (Pashov, 2005; Nitsolova, 2008; Kutsarov, 1994), modality (Matthewson et al., 2007), and others (Aikhenvald, 2004).¹²³ Of the languages discussed most in this dissertation, such languages are Bulgarian and Azeri.

There also many languages where evidentials constitute a dedicated morphological paradigm in the functional inventory that does not share meaning with another functional category, and thus cannot be directly classified as syntactic tense, aspect, mood etc. Of the languages discussed in this dissertation, such languages are Tagalog, Cheyenne, and Cuzco Quechua. I have referred to these as DEDICATED evidential languages.

Aikhenvald (2004) labels the non-dedicated case ‘evidential strategies’ and considers only dedicated evidentials to be ‘true’ evidentials (also ‘pure’ in Faller, 2002). I have not adopted this strict view on what counts as an evidential, because it would leave out many of the languages that have been object of inquiry in both traditional

¹²³Sometimes the precise category which overlaps with evidential meanings is controversial in the literature. This does not matter for the discussion here. What matters is that there is some other meaning shared by the morphology the evidential meaning is attributed to.

and generative linguistics, and — more importantly — because all the findings relevant here for dedicated/‘real’ evidentials hold equally for non-dedicated evidentials (‘evidential strategies’), as has been shown in the preceding chapters and is further discussed in §4.1.2. These findings suggest that non-dedicated evidentials are true evidentials.

If a modal-illocutionary split of evidentiality is not warranted, and evidentiality across languages can have an underlyingly uniform syntactic representation, what is that unified syntactic form?

I propose the following diagnostic. In those languages where evidential meanings are dependent on morphology that also has other, non-evidential uses, such as temporal, aspectual, modal, etc., the surface position of the evidential is not informative of its underlying syntactic position. This is because non-dedicated evidentials surface in the host projection.

Only the dedicated languages (called by Faller (2002) ‘pure evidential’ languages in that the morphemes that encode evidentiality do not have any other, non-evidential meanings) are informative of the syntactic position of evidentials. Dedicated evidential languages show that evidentials occupy the highest available position in the functional domain (Faller, 2002; Murray, 2010a). These authors do not offer a formal syntactic proposal of evidentiality, but they describe its position clearly: it is the **highest** position in the clausal morpho-syntactic structure. For Faller (2002), evidentials in Cuzco Quechua are enclitics that “always attach last” (p. 13). In Cheyenne, verbs have a templatic affixation of the verb, with each category having a slot. Crucially, evidentials occupy the outermost functional slot (Murray, 2010a: §2.3, §2.4). While this alone is not sufficient evidence to regard evidentials as complementizers, it adds to the rest of the evidence, such as the semantic interpretation, which is discussed next.

To sum up, languages where evidentials are not dependent on the linear position of another item inform the question on the underlying syntactic position of eviden-

tials, independently from and in accord with the syntactic position of their sister phenomenon - *say*-complementizers (logophoric or not). That is, they tend to occupy the highest position in the clausal spine. Next I further support this syntactic proposal with the semantic interpretation of evidentials.

4.1.2 Interpretation of light attitudes: widest scope

Further support for the proposal that evidentials are uniformly structurally highest comes from the fact that in languages where evidentials are not dedicated morphemes but linearly restricted to the (structurally lower) position of their host, they still show widest semantic scope, i.e. ‘pure’ (dedicated) and ‘non-dedicated’ evidentials are interpreted in the same way. This is illustrated here with examples of each of the two groups of languages: Cuzco Quechua, with dedicated evidentials, and Bulgarian, where evidentials are morphologically related to perfect aspect, so-called PERFECT OF EVIDENTIALITY (Izvorski, 1997). In the examples from both languages below, the only possible interpretation is one where the evidential scopes over the negation, even when that is not the surface scope (Bulgarian), and the reverse is shown to be not a possible interpretation (marked with $\neq$):

(179) Evidentials scope over sentential negation:

surface scope: $\neg > \text{REP}$

interpretation: $\text{REP} > \neg$

a. **Ne valjalo.**

not rain.REP

‘Reportedly, it’s not raining.’

= ‘Someone said that it’s not raining.’

$\neq$ ‘Someone did not say that it’s raining.’

$\neq$ ‘No one said that it’s raining.’

[Bulgarian]

- b. Pilar-qa **mana-n/-s/-cha** t'anta-ta mikhu-rqa-n-chu.
 Pilar-TOP not-MI/-SI/-CHA bread-acc eat-PST1-3-CHU
 = The speaker has direct/reportative/conjectural **evidence** for the
 proposition 'Pilar **didn't** eat bread.'
 ≠ It is **not** the case that the speaker has direct/reportative/conjectural
evidence for the proposition that 'Pilar ate bread.'

[Cuzco Quechua], **Faller (2002)**: (20b)¹²⁴

The next dataset shows the interaction between epistemic modals and negation in Bulgarian. The first example, (180a), shows that when negation semantically scopes over an epistemic modal, it also overtly precedes the modal linearly in the syntax. The surface interpretation of (180a) is the only one it has. In order to get an interpretation whereby the modal scopes over the negation, this has to be also linearly the case, as in (180b). This means that in Bulgarian, modals have obligatory surface scope with respect to negation, while evidentials, as shown in (179a), have obligatory covert scope.¹²⁵

(180) Modals and negation without evidentials:

- a. **Negation > modal:**

Surface scope: $\neg > \Diamond$

Interpretation: $\neg > \Diamond$

Ne mozhe da vali.

not may subj rain

[OK] 'It is false that it may be the case that it is raining.'

≠ 'It may be the case that it's not raining.'

- b. **Modal > negation:**

¹²⁴In the source, the infelicitous interpretation of this sentence is provided on page 28.

¹²⁵These facts hold of all other modal bases, including so-called root modals.

Surface scope: $\Diamond > \neg$

Interpretation: $\Diamond > \neg$

Mozhe *da* **ne** *vali*.

may subj not rain

[OK] ‘It may be the case that it’s not raining.’

$\neq$ ‘It is false that it may be the case that it is raining.’

[Bulgarian]

When we add evidentials, modals, and negation together, (181), the only possible interpretation is that the evidential outscopes both the modal and the negation, regardless of their scope between each other.¹²⁶ All other logically possible interpretations are ruled out. To simplify the exposition, example (181) adds evidentials only to the cases that were not already ruled out in (180).

¹²⁶ As a control, note that the following case of the main verb being marked with a reportative evidential and ‘stranded’ under a modal because of the subjunctive particle *da* is not well-formed in Bulgarian:

- (i) ***Mozhe** *da* **valjalo**.

may SUBJ rain.REP

Intended: ‘It may be the case that it was reported that it’s raining.’

This example adds further support for my claim that modals cannot scope over evidentials. Furthermore, this cannot be due to a morphosyntactic restriction on the subjunctive-like particle *da*, because *da* can take finite verbs, as mentioned by Rivero and Simeonova (2014), as well as (and more importantly here) evidentially marked verbs, as shown below (also (i) in Chapter §2):

- (ii) Context: One parent returns from a school meeting. The other asks: “So what did the teacher tell you about our child?” The other says:

Da uchel *poveche po fizika*.

da study.rep more on physics

$\approx$ ‘[Teacher said] that [child] study more physics.’

[Bulgarian]

If the locus of the issue was a morphosyntactic restriction, sentence (ii) would not be grammatical, either. More examples with *da*+reportative are found in Nitsolova (2008); Iliev (2017).

(181) Interaction between modals, negation, and evidentials:

a. **Evidential + {negation > modal}:**

Surface scope: $\neg > \Diamond > \text{REP}$

Interpretation: $\text{REP} > \neg > \Diamond$

Ne mozhelo da vali.
not may subj rain

(i) [OK] evidential > negation > modal

‘It is **reported** that it **may not** be the case that it is raining.’

(ii) $\neq$ negation > modal > evidential

$\neq$ ‘It is **not** the case that it **may** be **reported** that it’s raining.’

(iii) $\neq$ negation > evidential > modal

$\neq$ ‘It is **not reported** that it **may** be the case that it’s raining.’

b. **Evidential + {modal > negation}:**

Surface scope: $\Diamond > \text{REP} > \neg$

Interpretation: $\text{REP} > \Diamond > \neg$

Mozhelo da **ne** vali.
may subj not rain

(i) [OK] evidential > modal > negation

‘It is **reported** that it **may** be the case that it’s **not** raining.’

(ii) $\neq$ modal > negation > evidential

$\neq$ ‘It **may not** be **reported** that it is raining.’

(iii) $\neq$ modal > evidential > negation

$\neq$ ‘It **may** be **reported** that it is **not** raining.’

[Bulgarian]

These data, which to my knowledge have not been discussed in the literature, show that the non-dedicated evidential in Bulgarian is not interpreted where it surfaces morphologically, but much higher: higher than propositional operators like epistemic modals and negation.

This means that when evidentials and some other functional material are represented by the same morpheme, the structurally lower category wins in the competition for place of representation. The evidential position, then, cannot be the structural host of other, non-attitudinal meanings.

To sum up, in view of the morphosyntactic diversity discussed above, it is remarkable that evidentials consistently take scope over sentential operators such as negation. This lends further support for the proposal here that their underlying position is the highest one in the clausal spine.

In what follows, I label the projection *cP* and identify its properties.

4.2 The light attitude projection: *cP*

In this section I propose that perspectival complementizers (§4.1) occupy a ‘little’ complementizer projection, i.e. *cP* — a label first introduced by de Cuba (2007).

First I outline in §4.2.1 how my use of the *cP* label differs from that in de Cuba (2007) and how the projection differs from a dedicated projection EvidP (Cinque, 1999). Then I go on to describe each of the main properties of *cP* in more detail.

4.2.1 The label *cP*

It was established so far that light attitudes are complementizers. Now I propose that the projection that hosts them is not CP, but a functional projection *cP*, which selects CP:

$$(182) \quad [cP [CP [TP [vP [VP \dots$$

Before delving into the properties of the projection, I review how it differs conceptually from a previous syntactic account of evidentials and the label *cP* of de Cuba (2007), which I have borrowed.

Usually, a dedicated EvidP projection is assumed to host evidential phenomena

in the CP spine since Cinque (1999):

(183) ForceP > EvalP > **EvidP** > EpistP > TP

based on Cinque (1999): 56 (19)

My proposal departs from the idea of EvidP in the following ways summarized here and presented in more detail below.

(184) **Similarities:**

- a. Both EvidP and *cP* are generated higher than their surface linear position (in some languages).
- b. Potentially (though Cinque, 1999 does not discuss this), EvidP can host various evidentials, such as direct, reportative, etc, i.e. it has ‘flavors’. The same holds for *cP*.

(184) **Differences:**

- a. EvidP hosts only evidentiality, while *cP* hosts attitudinal phenomena in general (including but not limited to evidentiality).
- b. EvidP is generated when evidential morphology is present in the sentence. *cP* is not generated on demand, but always present in the clausal spine.
- c. EvidP occupies an intermediate position within the extended clausal spine. *cP* is the top of the clausal left periphery; there is no propositional structure or operators scoping over it.
- d. EvidP is only generated in languages with overt evidential morphology. *cP* is generated in the basic syntactic spine.
- e. EvidP has no argument structure and its specifier is not considered an A-position. *cP* has argument structure, discharges θ -roles, and therefore its specifier is an A-position.

The label *cP* was introduced by de Cuba (2007) (see also de Cuba and Ürögdi, 2009) for clausal complements to verbs, recently extended to noun modifying clauses by de Cuba (2017), to host what he calls (clausal) REFERENTIALITY, to account for the distribution of complementizers in embedded clauses under factive and non-factive predicates in Germanic languages and Hungarian.¹²⁷ Here I review the similarities and differences in my use of the label and the use by de Cuba (2007).

(185) a. **Similarities:**

- (i) *cP* is a functional projection that selects CP.
- (ii) *cP* is generated in all languages.

b. **Middle ground:**

- (i) de Cuba (2007) makes a distinction between a non-nominal complementizer projection (*cP*) and a nominal projection (CP). In my use of *cP*, this distinction is encoded above CP (see §5).
- (ii) For de Cuba (2007), the function of the *c* head is “removing the speaker from responsibility for the truth of the embedded clause” (p. 15, fn. [5]) This corresponds to the non-speaker perspective discussed in §3.2.2 for logophoricity and §3.3.1 for evidentiality. But in my version, this is not a property of the projection, but of just one possible *c*-head. Other *c* heads have other properties.

c. **Differences:**

- (i) *cP* is generated only in clauses embedded under non-factive predicates in de Cuba (2007). It is always generated in my account

¹²⁷The label *cP* was also used recently by Portner et al. (2019) as an abbreviation of ContextP and to distinguish it from CP. Portner et al. (2019) do not relate their use of *cP* to any of the phenomena discussed by de Cuba (2007); de Cuba and Ürögdi (2009); de Cuba (2014); de Cuba (2017), neither do they draw a parallel with *vP*. Portner et al.’s proposal also differs from de Cuba’s use of *cP* in that for Portner et al., *cP* is only generated in matrix clauses (since it aims to capture context) and is not considered as a true complementizer layer, while de Cuba’s *cP* is a complementizer projection and is only generated in embedded non-factive clauses.

(including in matrix clauses).

- (ii) The *c* head has only one function (see (185b-i)), no flavors. Here: it hosts a number of phenomena which are in complementary distribution.
- (iii) *c*P does not project argument structure and does not discharge θ -roles in de Cuba (2007) but it does here.

Since I am borrowing de Cuba’s label but using it differently, I continue to highlight similarities and differences in the body of the text that follows.

4.2.2 *c*P hosts perspectival phenomena

4.2.2.1 Main arguments

Similarly to how *v*P hosts events, regardless of the nature of the event, *c*P is not dedicated solely to evidential morphology, or to logophoric phenomena, but is meant to be the host of various functional-attitudinal phenomena, including logophoricity, and potentially other perspectival phenomena, such as switch-reference, conjunct/disjunct.¹²⁸

For example, recently, more (also on-demand) projections have been proposed to host various language-specific attitudinal phenomena, e.g. SentienceP (Speas and Tenny, 2003), Att(itude)P (Huang and Ochi, 2004; Oguro, 2014; Pan, 2015), POVP (=Point of View Phrase) (Nishigauchi, 2014), Persp(ective)P (Sundaresan, 2013, 2018).

The extent to which the particular objects of inquiry of these works and their proposals are compatible with the concept of *c*P drafted out here is left for future research. I could not and do not claim to crudely assimilate all of these projections in bulk into my proposal for *c*P. In this dissertation, I have argued that the descriptive

¹²⁸See Stirling (1993) for a discussion of switch-reference in relation to logophoricity, evidentiality, conjunct/disjunct systems, and others.

notions of ‘evidentiality’ and ‘logophoricity’ are the overt realizations of the same underlying phenomenon: functional attitudes. Whether the finding holds for the rest of the phenomena cited here and the rest of the languages, or how it relates to them, is a question that is important but is outside the scope of this dissertation.

I have, however, two goals that are immediately applicable, both intended to invoke considerations to be taken into account when evaluating the case of perspectival projections. One is to highlight that many recent works on various morphosyntactic phenomena in a number of unrelated languages have seen a need for a high functional projection that — in their own view — represents perspectival phenomena. This pool of overlapping concepts seems significant, be it even for the sheer diversity of the phenomena used to motivate the various proposals.

My second goal is to call to attention the need for a consideration on whether and how these seemingly independent from each other proposals may be reconciled and whether the abundance of these projections could be reduced to a theoretically simpler, more elegant representation (while still cross-linguistically valid). Does UG generate all of POVP, PerspP, AttP, SenP, EvP, LogP, allowing just one of them to manifest per language, or is it that they are the cross-linguistic representations of one and the same, more general phenomenon? To fully answer this question, each of the arguments and the data presented in these works need to be considered, which is beyond the scope of this dissertation. My proposal for a generic structural projection *cP* suggests a direction for such a reconciliation.

4.2.2.2 Difference with de Cuba (2007) and Elliott (2017)

de Cuba (2007) proposes that “*cP* is headed by a semantic operator that removes the speaker from responsibility for the truth-content of the embedded clause” (p. 9).¹²⁹ Since this wording addresses explicitly the question from whose perspective the

¹²⁹The descriptive literature on evidentiality also often describes reportative or general indirect evidentials in the same terms: as removing or distancing the speaker from responsibility, see Aikhenvald

proposition is evaluated, *cP* qualifies also as a perspectival projection. For [de Cuba \(2007\)](#), however, speaker perspective can also be encoded by CP, namely in cases of factivity. I differ in my use of *cP*, in that I propose that perspectival relations are resolved not in CP but in *cP* (including factivity, as developed in more detail in the next chapter, §5.2).

The proposal by [Elliott \(2017\)](#) of a CP projection that is higher than CP *that*-clauses is conceptually quite similar to that of [de Cuba \(2007\)](#) for a *cP* selecting CP and hosting an intensional operator. One difference between them is that according to [Elliott \(2017\)](#), all embedded clauses are CP, i.e. intensional (matrix clauses are CP), while for [de Cuba \(2007\)](#), intensional embedded clauses are *cP* but factive embedded clauses, as well as matrix clauses, are CP. [Elliott's](#) proposal cannot be sustained as formulated, because not **all** embedded clauses are intensional (e.g. factive, relative, some adjunct clauses).¹³⁰

In my proposal, all clauses that have a C-layer also project a *cP* layer, including embedded clauses, similarly to [Elliott, 2017](#), but also matrix clauses, unlike in [Elliott, 2017](#). But in my proposal, not all *cP* clauses are intensional, unlike [Elliott \(2017\)](#), but have various flavors, see §4.3.1.

4.2.3 *cP* is not generated on-demand

I regard *cP* as a fundamental part of the syntactic spine, not generated only sometimes or only in some languages, but always projected in the C-spine — again, similarly to *vP*.¹³¹

The proposal differs from *cP* in [de Cuba \(2007\)](#) in that he regards only sentences that represent a non-speaker perspective to be headed by a *cP*. In view of the discus-

(2004); [Guentchéva \(1996\)](#); [Guentchéva and Landaburu \(2007\)](#) among many others.

¹³⁰See for more details Chapter §5.

¹³¹Since *cP* selects a CP, as in [de Cuba \(2007\)](#), by ‘always’ I mean whenever a CP is projected (excluding a structure of the form: [*cP* TP]). Bare TP clauses are not covered in this dissertation and I assume that *cP* cannot select a TP for syntactic reasons.

sion above in this chapter, speaker and non-speaker perspective are in complementary distribution and cannot co-occur. If they both represent perspective, it is reasonable to regard both as hosted in the same perspectival projection.¹³² Since every utterance is made from someone's perspective, *cP* has to be generated in every clause.

In addition, this proposal is able explain the fact that perspectival phenomena are so ubiquitous across languages, regardless of how they are morphologically realized (evidentiality, logophoricity, argued for in Chapter §3, and the works cited in this section on other perspectival phenomena.

Finally, having *cP* as an integral part of the spine has implications about its learnability: I assume that *cP* is an integral part of the UG syntactic spine and children simply 'fill in' which heads are realized in their language. And if evidentials (and logophoric complementizers) are propositional attitudes gone functional, as I have proposed, this makes a concrete prediction for their learnability: they would be acquired (possibly shortly) after the acquisition of lexical attitudes. While there is some research on the first language acquisition of evidentials, such as Aksu-Koç and Slobin (1986); Fitneva (2008); Matsui and Fitneva (2009); Aksu-Koç et al. (2009); de Villiers et al. (2009), the questions outlined here have not yet been asked, because they were only able to arise from a theoretical paradigm that relates evidentiality/logophoricity and propositional attitudes.

¹³²Another possibility is that non-speaker perspective is somehow 'marked' and its absence is somehow 'neutral'. This is along the lines of de Cuba (2007): he proposes that factive clauses are CPs, and to 'remove factivity', one needs to add an extra projection. But this implies that in the derivation of non-factive (or more widely, non-speaker oriented) clauses, they were at some point factive (speaker oriented) and this needs to be 'removed' with one more derivational step. This resembles some of the issues with the PRESENT speech act proposal of Faller (2002) (discussed in §2.3). Faller's account assumes that there was a speech act of the speaker asserting the proposition, which was later overwritten by the PRESENT speech act, where the speaker is presenting the same proposition as asserted by someone else (this shortcoming is acknowledged by Faller). Unlike these rewriting approaches, my proposal capitalizes on the fact that different kinds of perspective are in complementary distribution, regardless which one is more 'marked'.

4.2.4 *cP* is the top of the CP spine

It was discussed in Chapter §2 that the illocutionary approach finds support for a post-syntactic account in the fact that evidentials outscope other propositional operators in the sentence. But a syntactic approach to the same facts would conclude that the structural position of the projection that hosts evidentiality is **higher** than that of the other operators considered. How high? If we do not yet know of anything higher, then, as of now, this may well be the highest projection in the syntactic spine. This is the approach I adopt based on the new evidence accumulated in Chapter §3, where I showed that evidential markers have syntactic properties like matrix subject and verb sensitivity in embedded clauses in both non-dedicated and dedicated languages. Furthermore, in §4.1, I presented evidence showing that light attitudes occupy a complementizer position morphosyntactically and outscope other propositional operators in the clause semantically. Complementizers are normally associated with the highest possible structural position in the clause, and in the absence of evidence for a structural layer that is higher than that hosting functional attitudes, I assume that *cP* is the highest projection available in the clausal spine, closing off the left periphery — again, strikingly similar to *vP*, which tops off the eventuality spine.

The proposal advanced here is not cast within the so-called cartographic approach to syntactic projections — Rizzi (1997); Cinque (1999, 2002), see Shlonsky (2010) for an overview, — which has seen the expansion of the complementizer layer into a number of functional projections (perhaps most notably ones devoted to focus and topic, but Cinque (1999) considers EvidP also part of the expanded CP spine). However, it bears on it too, by suggesting that the topmost layer is not the clause-typing ForceP (as traditionally assumed in cartographic approaches), but *cP* (whose descriptive ‘cartographic’ name would perhaps be AttitudeP).¹³³ For example, interpretations of

¹³³My structural proposal is conceptually in accord with the findings of illocutionary approaches to evidentiality such as Faller (2002), but provides a syntactic framework to model them (as opposed

evidentials reporting imperative or interrogative sentences (Bittner, 2008; Thomas, 2012; AnderBois, 2017, ex. (ii) in fn. [126]) confirm that the reportative scopes over ForceP.

Most previous proposals that involve logophoric or attitudinal projections have either remained vague with respect to the exact syntactic position or even the label of the projection, such as Anand (2006); Park (2018); Charnavel (2018), or have postulated that it is somewhere very high in the left periphery, but still remained agnostic with respect to how it relates to other positions in the clause, such as Sundaresan (2013, 2018) on PerspP. Two exceptions to this claim are Speas and Tenny (2003) and Charnavel (2020).¹³⁴ Speas and Tenny (2003) propose an elaborate structure and a position for EvidP. They regard logophoricity and evidentiality as separate projections, and propose that the evidence itself is in the specifier of EvidP, not a pronoun with a theta-role, as is the view here. Charnavel (2020) (presented in §3.1.3.1) asserts that the (unnamed) abstract functional projection that hosts a logophoric operator can be generated at adjacent to TP, VP, and DP. My proposal here excludes lower locations (see again arguments §4.1 and only generates *cP* as selecting CP.

Making the position of *cP* as precise and explicit as possible also makes my hypotheses falsifiable and easier to examine from a cross-linguistic perspective, while at the same time capitalizing on the principle of syntax-semantics correspondence (Chapter §5).

Next I move on to the flavors and argument structure of *cP*.

to purely pragmatic-based one). For example, by positioning *cP* above ForceP, *cP* could capture the notion of illocutionary operator used in those works. However, this line of reconciliation is not explored further in this dissertation, and as of now I am not claiming that *cP* is an ‘illocutionary’ projection relating to speech act participants. If such projections exist, they would build another self-contained layer of projections after the clausal layer closed off by *cP*.

¹³⁴Another exception is Nishigauchi (2014), where POVP is generated below Tense (158: fn. [1]). Unfortunately, the semantic scope is not discussed so it cannot be evaluated and compared to the present proposal.

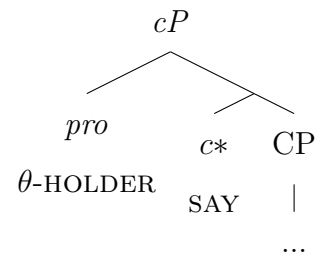
4.3 The argument structure of *cP*

I propose that different perspectival values, including the different values of evidential markers, represent different *c*-heads, which project a (pro)nominal specifier and discharge a thematic role to it, i.e. *cP* has argument structure.¹³⁵ This again is similar to *vP*, which has ‘flavors’ (Folli and Harley, 2005).

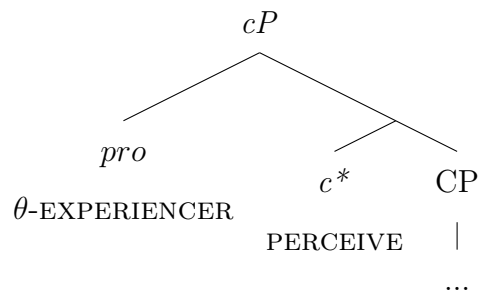
These ideas are represented in the trees and elaborated below:

(186) **Flavors and head valency of *cP*:**

- a. Reportative and logophoric *c**:



- b. Perceptual *c**:



4.3.1 Head valency

Different evidentials are represented by different *c*-heads, each with its unique syntactic and semantic properties that lead to the different constraints and interpretations of evidentials observed in the previous chapter.¹³⁶ Specifically, a reportative evidential is

¹³⁵An exception is the intensional content function CONT, which does not project a specifier and does not discharge a theta role. It is introduced in the next chapter, in §5.1.1.

¹³⁶The semantic implications of this divide are discussed in Chapter §5.

represented by a head SAY, (186a), while a direct perception evidential is represented in (186b) as a functional attitude PERCEIVE. The level of abstraction of the evidential predicate may vary from language to language, depending on what evidential inventory it possesses. For example, if a language has distinct morphology marking SEE and HEAR, as Tuyuca does, as partially repeated here from (34) in Chapter §2, it is reasonable to model these as different heads SEE and HEAR.

(187) **Tuyuca direct perception evidentials:**

- a. *díga apé-wi*
‘He played soccer’. (I **saw** him play.)
- b. *díga apé-ti*
‘He played soccer’. (I **heard** the game and him, but I didn’t see it or him.)

[Tuyuca] Barnes (1984): 257, (1)-(2)

If a language does not make such a precise distinction but uses one form to mark various kinds of direct perception, the light attitude predicate is more generic, such as PERCEIVE.¹³⁷

But generalized attitudes do not necessarily correspond to lexical predicates. For example, in order to account for LDR phenomena in Korean, Park (2018), presented in §3.1.3.3, proposes an abstract attitudinal predicate that does not have a lexical counterpart in English or Korean. She calls it ‘P-PRED’ (‘perspectival predicate’) and defines it as in (138) in §3.1.3.3.¹³⁸ Her proposal is theoretically motivated. Empirical support comes from languages with evidential markers or attitudinal complementizers whose meaning spans beyond the meaning of one single predicate. Generic indirect

¹³⁷This view is compatible with the semantic account of evidentials, laid out in Chapter §5.

¹³⁸This suggests that the LDR phenomenon could also be accounted for within my proposal, i.e. Park’s abstract P-PRED projection may be successfully represented in my *cP* projection. Park (2018) does not consider the existence of other functional attitude predicates.

evidentials are not restricted to only reports or only inferences but cover all the sub-meanings that Willett (1988) grouped under his label Indirect, as shown in Figure 2.1, partially reproduced here:

(188) Indirect > Reported, Inferred

This gives rise to evidential systems with smaller evidential inventories, e.g. just two items (generic indirect *vs* generic direct or even evidentially unmarked), which are typologically widely spread, see Aikhenvald (2004) for an overview. The generic indirect is illustrated here with Cherokee, where the morpheme *eʔi* can have both reportative and inferential readings:

- (189) a. u-wonis-**eʔi**
 he-speak-NON.FIRSTH.PAST
 ‘He spoke’ (someone told me)
- b. u-gahnan-**eʔi**
 it-rain-NON.FIRSTH.PAST
 ‘It rained’ (I woke up, looked out, and saw puddles of water)
- [Cherokee] Aikhenvald (2004): (2.7,2.8)

Among attitude complementizer languages (which are not restricted to languages with logophoricity), in Laz, the complementizer-like (structurally high) particle *ya* has an attitude import and shares many of the properties of *say*-complementizers in logophoric languages, including contributing attitude meaning on its own (omitting a main verb) and person restrictions (Demirok et al., 2018). It is not restricted to communicative reports but can mean both ‘say’ and ‘think’:

- (190) Artek [sebap’-on **ya**] do fuk’aras para niçams
 Arte.ERG good.deed-is YA CONJ poor money gives
 ‘Arte gives money to the poor, {saying, thinking} that it’s a good deed.’
- [Laz] Demirok et al. (2018): (6b)

Such cases are correctly predicted to exist by my proposal and can be represented by another flavor of the head: an abstract SAY+THINK, in line with Demirok et al.’s semantic account which also regards *ya* as the product of the unification of the meanings of *say* and *think*:

$$(191) \quad \llbracket \mathbf{ya} \rrbracket = \llbracket \mathbf{say} \rrbracket \cup \llbracket \mathbf{think} \rrbracket = \{ \langle x, e \rangle : e \text{ is a speaking of } x \text{ or a thinking of } x \text{ event} \}$$

Demirok et al. (2018): (16)

The Laz complementizer *ya* continues the thread of similarities between evidential languages and overt attitudinal-complementizer languages, showing that they are not restricted to SAY particularly. My proposal can capture Demirok et al.’s findings, while at the same time it positions them in the larger context of other functional attitudes and provides a syntax to host them.

My proposal for head flavors differs from previous syntactic proposals for a perspectival projection mentioned in §4.2.2 (as well as from *cP* as introduced by de Cuba, 2007), because they assume that the respective projections only host one operator, and do not have valency. It seems to me that only Cinque (1999) and Speas and Tenny (2003) would in principle allow for head valency for their EvidP projections, but they do not discuss this overtly, considering different types of evidence/flavors.

4.3.2 A silent (pro)nominal specifier

I propose that *cP* can have argument structure, hosting a silent *pro* in its specifier, which receives a thematic role from the *c*-head, similarly to the roles discharged by lexical attitudes residing in *vP*: ATTITUDE HOLDER in the case of communicative light predicates like SAY, and EXPERIENCER, discharged by functional perceptual verbs, such as SEE, PERCEIVE.

I further propose that *pro*’s person features are restricted to third person in the case of communicative functional predicates, and to first person in the case of percep-

tual ones. This captures the perspectival properties of the arguments of functional attitudes (unlike the subjects of lexical attitudes), presented in §3.2.2 and §3.3.1 for logophoric and evidential languages, respectively. The perspectival restriction consisted in the constraint of logophoric and reportative evidential phenomena to only represent a non-speaker point of view, on the one hand, and the opposite (a speaker-oriented perspective) for perceptual evidentials. The crucial data are repeated here showing that a first person interpretation is not possible in logophoric languages, (192a), and in evidential languages when the evidential marker is reportative, as in (193a), but it is allowed (194a) and obligatory (194b) when the evidential is perceptual.

- (192) a. *Mi inyemε yogo bojεm gim
 1SG.SUBJ LOG tomorrow go-1SG.PRG said.1SG
 Intended: ‘I said that I will leave tomorrow.’

- b. Yo inyemε yogo boojεm gi
 3SG LOG tomorrow go-1SG.PRG said.3SG
 ‘He/She_i said that he/she_i will leave tomorrow.’

[Donno So] Culy (1994b): 114, (3)

- (193) a. *S<in>abi ko na gusto daw ni Lemuel si Dennis.
 <PFV>say(PV) 1SG.GEN C like REP GEN Lemuel NOM Dennis
 Intended: ‘I said that Lemuel likes Dennis.’

- b. S<in>abi niya na gusto daw ni Lemuel si Dennis.
 <PFV>say(PV) 3SG.GEN C like REP GEN Lemuel NOM Dennis
 ‘He said that Lemuel likes Dennis.’

[Tagalog]

- (194) a. **Az** vidjah, che **valeshe**.
 I saw.DIR1SG that rain.DIR
 [OK] ‘I saw that it was raining.’

- b. **Yavor** vidja, che **valeshe**.
 Yavor saw that rain.DIR

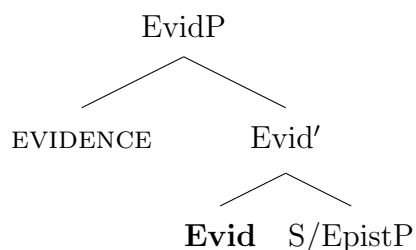
‘Yavor saw that it was raining.’

→ The speaker perceived the raining

↗ Only Yavor perceived the raining [Bulgarian]

My proposal differs from all existing syntactic accounts of evidentiality I am aware of, which do not consider the evidential projection to have a pronominal specifier (let alone one with distinct ϕ -features). Speas and Tenny (2003) project a specifier in EvidP, but they regard the evidence (e.g. raindrops) to be in it, as represented in their tree below, not a personal pronoun with a thematic role discharged by the Evid⁰ head:¹³⁹

(195) “physical evidence indicates [the weather is bad]”



Speas and Tenny (2003): (33)

Existing formal approaches to evidentiality cannot capture the perspectival properties of evidentials or their similarities with logophoricity (and attitudinal complementizers in non-logophoric languages, such as Laz). Speas and Tenny, 2003 provide a syntax for logophoricity and evidentiality, but differentiate them in separate projections with different properties, not predicting the common patterns shown in (192) and (193). Their proposal seems to predict the opposite pattern, because they assume that the [report] SOURCE role proposed by Sells (1987) represents the current speaker.

My proposal shares one detail with the illocutionary analysis of reportative evidentials by Faller (2002). Her definition of the reportative speech act PRESENT is

¹³⁹In the notation, S stands for Sentence, possibly TP or CP, but it is left open.

repeated from §2.2.2.1 here:

(196) Analysis of the reportative evidential marker *si*

ILL = ASSERT(*p*)

SINC = {*Bel*(*s*, *p*)}

STRENGTH = 0

→

ILL = PRESENT(*p*)

SINC = { $\exists s_2 [Assert(s_2, p) \& s_2 \notin \{h, s\}]$ }

STRENGTH = N/A

Based on Faller (2002): 200, (167)

With the definition of PRESENT in (196), Faller (2002) postulates that there exists some speaker *s*₂, who asserted the scope proposition and who is neither the current speaker *s* nor the current addressee *h* (*h* for hearer). This would pick out an individual who syntactically could only be represented by a third person pronoun. Since her proposal is at a post-syntactic level of representation, it does not involve pronouns; but if it did, they would have to be third person. Thus, with some additional assumptions about the embeddability of speech acts, her proposal could predict the data in (193) and (194).¹⁴⁰

My syntactic proposal for a *cP* projection with a silent *pro* is generally in line with recent formal analyses of logophoricity (if through the lens of LDR) and/or other perspectival phenomena, Nishigauchi (2014); Park (2018); Charnavel (2018, 2020); Sundaresan (2013, 2018), who all pay special attention to the assumption of a silent pronominal in a high projection that hosts a perspectival operator (be it logophoric or more generic). This highlights once again the connection between evidentiality and perspectival phenomena that I argued for in Chapter §3.

¹⁴⁰See, however, Portner (2006) for a detailed discussion of Faller’s proposal for enriching the speech act inventory with the concept of PRESENT and arguments against it.

However, I differ from these approaches in terms of what features *pro* encodes: for example, Park (2018) and Charnavel (2018, 2020) consider *pro* to be marked with an abstract feature [LOG] to signal that it is a logophoric pronoun in the syntax. Park (2018) discusses the downsides of this ad-hoc approach, which include circularity/no clear definition of this new theoretical primitive, no explanatory insights, and no theoretical value (see again §3.1.3.4). The [LOG] feature is even more detrimental for Charnavel (2018, 2020), one of whose main theoretical goals is to reduce logophoricity to reflexivity. Assuming a logophoric primitive undermines such a program. For this reason, proposals like Nishigauchi (2014), who doesn't attribute any special features to the silent *pro*, might turn out to be more theoretically appealing.

Neither 'plain' *pro*, nor [LOG]-*pro* approaches can account for the perspectively-motivated person restrictions of logophoric (and LDR) pronouns (in (192) and see again §3.1.3.2). The Korean LDR *caki* is restricted to third person antecedents, which motivates Park (2018) to suggest that LDR *caki* — not the null pronoun — is lexically marked for third person. This approach could capture some of the perspectival restrictions pointed out in the previous chapter by ruling out person mismatch with the silent pronoun: *pro* can freely be of any person, but because of the fixed third person of the anaphor, only a third person *pro* would be grammatical). However, encoding the perspectival restriction on the LDR instead of the null pronoun has some undesirable consequences that the alternative does not share.

For one, *caki* is not morphologically third person, but is unmarked for any features, and when used 'short-distance' it can have antecedents of any person. This forces Park to postulate two lexical entries for Korean *caki*: one where *caki* has no features ('short-distance' *caki*), and one that is lexically marked as third person ('long-distance' *caki*). The chances of such accidental homophony of *caki* are dubious, given that Park (2018) analyzes both types of *caki* as locally bound anaphors.

Another problematic prediction this approach generates is that it would freely allow logophoric (and LDR) cases that involve a lexically marked non-third person

matrix attitude holder and do not involve *caki* (recall that LDRs are optional, unlike logophoric pronouns), which are typologically rarely attested (see §3.1.2.5).

My proposal that *pro*, not an (optional) LDR pronoun, is restricted in person features and receives a communicative attitude holder thematic role from the light attitude head, mitigates these issues without postulating any new primitives (no need to resort to an abstract [LOG] feature), and can thus be applied by LDR programs such as that of Park (2018); Charnavel (2018, 2020). For example, in Korean, the two lexical entries *caki* differing only in their person properties can be reduced to one *caki* that can give rise to a logophoric reading when bound by a third person attitude holder of light SAY.

4.4 Consequences of the proposal

Here I point out a couple of desirable consequences that follow from the proposal outlined in this chapter: that the specifier of *cP* is an A-position in the syntax — one more similarity with *vP*, — and that the syntactic account outlined here does not need to make use of any primitives other than the empirically motivated claim that there exist functional versions of propositional attitudes.

4.4.1 Spec, *cP* is an A-position

The silent *pro* in Spec, *cP* receives a thematic role from the attitude predicate in *c*, much like lexical attitudes residing in *vP* discharge a theta-role to their external argument. This follows from the idea that the *c*-head is an attitude predicate, and is straightforward for functionalized material that is traceable to predicates like ‘see’, ‘hear’, ‘say’, ‘believe’, even ‘think+say’, discussed above. This proposal entails that Spec, *cP* is an A-position, not an A-bar position - another parallel with *vP*.

The view that the specifier of the projection hosting logophoricity (from the point of view of LDR) is an A-position is also explicitly adopted by Charnavel (2020), but

the parallel with attitude predicates or other argument positions — especially *vP* — is not made there. Park (2018) draws a relation between her functional projection hosting an abstract ‘Perspective predicate’ and a pronominal specifier, but its syntactic role is not discussed and it does not receive a theta role. Speas and Tenny (2003) suggest that the projection that potentially hosts logophoricity (but not evidentiality) has a pragmatic thematic role, ‘*p*-role’, as opposed to traditional theta roles (similarly in Speas, 2004).¹⁴¹ They regard SPEAKER and ADDRESSEE as syntactically represented and also receiving *p*-roles. In my proposal, the *pro* specifier of *cP* receives a standard thematic role.

4.4.2 No primitives

Many of the existing alternative proposals discussed above have postulated a variety of new theoretical primitive notions in order to account for either logophoricity or evidentiality.

Primitives dedicated to logophoricity include discourse-thematic relations PIVOT, SELF, SOURCE (Sells, 1987), pragmatic logophoric role (Speas and Tenny, 2003), semantic notions like LOGOPHORIC CENTER (recently, Charnavel, 2018, 2020), or an abstract [LOG] feature in the syntax. In addition to being theoretically inelegant (see for example Park (2018) on the vagueness of the [LOG] feature), these proposals do not make correct predictions with respect to the perspective restrictions on logophoricity or explain its connection to evidentiality.¹⁴²

¹⁴¹Speas and Tenny (2003) also propose a logophoric role as a primitive, though it is not put into use. They show instead how the three roles into which decomposes Sells (1987) the notion of logophoricity (within Discourse Representation Theory), translate into their system, without reverting them to one primitive. The concept of a logophoric role as a primitive remains undefined in their system.

¹⁴²Recall that Park (2018) proposes that the reflexive *caki* is marked third person when it is used long-distance, but she keeps the assumption that the abstract *pro* does not have any special *phi*-features. See discussion in Chapter §3, §3.1.3.3-§3.1.3.4.

With respect to evidentiality, existing proposals introduce reportative-dedicated speech acts, such as Faller (2002) (presented in §2.2.2.1 and briefly reviewed in the previous section) or context updates, such as Murray (2010a) (presented in §2.2.2.2).

I have proposed instead to encode the perspective restriction of evidentiality and logophoricity into the syntactic properties of the nominal phrase that represents the ‘logophoric center’, and to define its semantic role as an attitude holder thematic role, which is equivalent what Sells (1987) called a SOURCE role. Thus, my definition of what is sometimes called a logophoric center is both precise and explicit, while not needing any new semantic or syntactic primitives, and is now equally relatable to evidentiality and logophoricity.

4.5 Summary of the chapter

In this chapter I proposed that functional attitude phenomena, such as evidentiality and attitudinal complementizers, are formally represented in the syntax. I have made explicit the projection they occupy — *c*P, which selects CP — and the properties I attribute to it. The *c*-head hosts the functional attitude, such as HEAR, SEE, PERCEIVE, SAY, THINK, i.e. it can be of different flavors, each with different syntactic and semantic properties. *c*P encodes attitudinal perspective towards the proposition denoted by a CP, as well as the perspective holder of that attitude, i.e. it projects argument structure. The *c*-head discharges a theta role to the pronominal specifier of *c*P. Different *c*-heads license different thematic roles, e.g. ATTITUDE HOLDER for SAY, THINK and EXPERIENCER for SEE, HEAR, PERCEIVE.¹⁴³

In the next chapter, I propose a compositional semantic analysis of functional attitudes that feeds off the syntactic structure developed here.

¹⁴³In the next chapter, I also propose a *c*-head that does not license an argument and does not discharge a θ -role, similarly to *v*.

Chapter 5

The semantics of light attitudes

Here I develop the semantic analysis of functional/light attitudes, which builds on that of lexical attitudes. I illustrate it with two case study examples: light SAY in §5.1 and light PERCEIVE in §5.2. Just as the syntactic account presented in the previous chapter, the semantic analysis is not restricted to these particular forms, but can cover other typologically attested representations of functional attitudes.

For each of the two cases in point, the motivations for an analysis of the lexical version of the attitude are laid out first. I build on and extend the de-compositional approach to propositional attitudes proposed by Kratzer (2006) and advanced by Hacquard (2006); Moulton (2009, 2015); Kratzer (2013, 2016); Uegaki (2015, 2016); Bogal-Allbritten (2016); Elliott (2017). One update of this approach that I propose is that the generic intensional operator in complements to unmarked cases of communicative attitudes resides in *cP* instead of *CP*. This revision has the advantage of a morphological independence of the intensional operator on the declarative complementizer *that*. This means that some functional attitudes can be quite bleached, while others may be richer than lexical attitudes in their semantic content, allowing for a continuum of morpho-semantic encoding of attitudes for which independent empirical evidence has been provided by works such as Bogal-Allbritten (2016).

While the solution I pursue here aims for a conceptional unification of both com-

municative and perceptual attitudes (be they lexical or functional), it also preserves important differences between these two classes of predicates informed by traditional works. For example, Melvold (1991), building on seminal work by Kiparsky and Kiparsky (1970), provides a direct comparison of these two classes and outlines the following program that captures their differences at the syntax-semantics interface:¹⁴⁴

- (197) a. Non-factive verbs (including *think*, *believe*) combine with predicates.¹⁴⁵
 b. Factive verbs (including perceptual verbs *see*, *hear*) combine with definite descriptions.

Melvold (1991): 112

I offer an updated rendition of these ideas couched within current views on decompositional semantics of communicative attitudes that regard their complements as predicates of contents for (197a), discussed at detail in §5.1.1, and the general theory of factivity by Kratzer (2012a) for (197b) in §5.2.1, and apply them to functional attitudes in §5.1.2 and §5.2.2, respectively.

5.1 Semantics for communicative predicates, lexical and functional

In this section I lay out the semantics of lexical communicative predicates (§5.1.1), which the proposal for light communicative predicates in §5.1.2 builds on.

¹⁴⁴Melvold (1991) discusses various subclasses of factive and non-factive predicates. I limit my scope here only to communicative/doxastic and perceptual predicates.

¹⁴⁵The idea that intensional verbs combine with predicates is also developed by Chierchia (1989), on different grounds (to account for *de se* phenomena).

5.1.1 Communicative lexical predicates

In this part, I present the semantics I adopt for communicative lexical predicates, which will then be extended to communicative/reportative/intensional light predicates in §5.1.2. The proposal is couched in the so-called decompositional framework for attitude verbs, with some modifications. First I briefly motivate my choice of the decompositional approach over alternatives in §5.1.1.1.

I then present the account of sentences containing communicative predicates bottom up, starting from the embedded clause, §5.1.1.2, where I present the decompositional account of Moulton (2009) and introduce slight modifications to it to adapt it to the *cP* hypothesis.

Then I discuss how the composition with the matrix clause is carried out in §5.1.1.3-§5.1.1.5. I present two existing proposals: Moulton (2009) on CONTENT NOUNS (§5.1.1.3), i.e. nouns that can compose with *that*-clauses, such as ‘idea’, ‘claim’, etc., and — in §5.1.1.4 — Elliott’s 2017 extension of Moulton’s proposal on content nouns to communicative and doxastic attitude verbs (which I refer to as CONTENT VERBS analogously to CONTENT NOUNS). In §5.1.1.4.2, I point out some undesirable consequences of Elliott’s analysis that motivate my proposal in §5.1.1.5, which is in turn then extended to functional communicative predicates in §5.1.2.

5.1.1.1 Motivating the approach

A seminal and widely used semantic theory on how to represent the relation between an intensional verb and its clausal argument is Hintikka (1969): the matrix verb is regarded as a quantifier over possible worlds and takes the embedded clause as its propositional argument.

$$(198) \quad \llbracket \text{believe} \rrbracket = \lambda p. \lambda x. \lambda w. \forall w' (w' \in \text{DOX}(x)(w) \rightarrow p(w') = 1)$$

This means that most of the ‘action’ is happening in the matrix clause, which seems

intuitively a fair division of labor: the heavy lifting of ‘to believe something’ — that is, the modal component or the ‘believing’ — is carried out by the matrix clause, while the embedded clause simply provides a proposition.

However, new cross-linguistic data theoretical ideas suggest that the division of labor may be distributed differently, and the role played by the embedded clause in the composition of propositional attitudes is more significant than providing a proposition. Instead more complex, finer-grained important pieces of that composition are currently believed to be hosted by the embedded clause. This stream of thought is referred to as ‘decompositional’, after the title of Kratzer’s 2006 talk, *Decomposing attitude verbs*, which first provided a theoretical motivation and a novel semantic account of that view (see Kratzer (2016) for a recent version). Decompositional attitude semantics has since been further developed by a growing body of literature, e.g. Hacquard (2006); Moulton (2009, 2015); Kratzer (2013, 2016); Uegaki (2015, 2016); Bogal-Allbritten (2016); Elliott (2017).¹⁴⁶ The rest of this section presents the basics of decompositional semantics.

5.1.1.2 Embedded content clauses

5.1.1.2.1 The basics The decompositional approach regards the embedded clause of a communicative and mental predicates, like ‘say’ or ‘think’, to be a PREDICATE OF CONTENTS, where CONTENT is defined as follows:

- (199) $\text{CONT}(x_c)(w) \stackrel{\text{def}}{=} \{w' : w' \text{ is compatible with the intensional content determined by } x_c \text{ in } w\}.$

Undefined if x doesn’t have intensional content.

Moulton (2015): (19a), Kratzer (2016): 33

The subscript $_c$ or $_{\text{CONT}}$ notation is added by Moulton (2009) and stands for CONTENT, to indicate that x is a CONTENTFUL INDIVIDUAL. It is used throughout for

¹⁴⁶See for another implementation of a similar idea (Moltmann, 2013a,b).

convenience to keep track of contentful individuals, but ontologically, contentful individuals are not different from non-contentful individuals, they are still part of the set of individuals. The notation is used as a reminder of the definedness condition in (199), which is based on the empirical observation that some individuals (called CONTENTFUL, such as *idea*) can relate to content, while others (non-contentful individuals, such as *apple*) cannot:

(200) the idea that it's raining

(201) # the apple that it's raining

It is assumed, then, that some individuals are inherently contentful, while others are inherently not so.¹⁴⁷

According to Kratzer (2006); Moulton (2009, 2015), in English, the content function is hosted by the complementizer *that*.¹⁴⁸ The complementizer takes a proposition and returns a property of contentful individuals whose content is that proposition:

(202) **Content complementizer:**

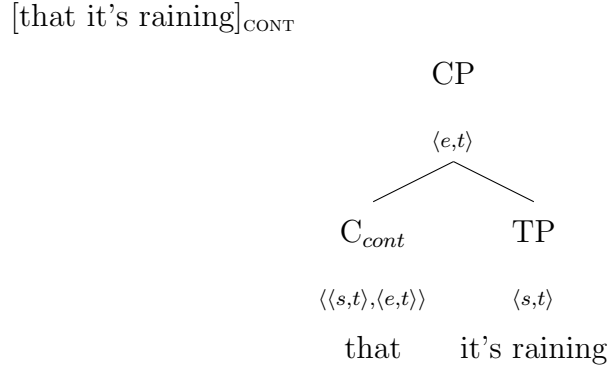
$$\llbracket C_{cont} \rrbracket = \llbracket \mathbf{that} \rrbracket = \lambda p. \lambda x_c. \lambda w. \text{CONT}(x_c)(w) = p \quad \text{Moulton (2015): (19b)}$$

So, the derivation of an embedded clause with content would be:

¹⁴⁷Elliott (2017): §2.3.1 provides a detailed discussion on the ontology of content.

¹⁴⁸I propose to separate the notion of content from the morphology of *that* in §5.1.1.2.2.

(203) **Embedded content clauses** by Moulton (2009):



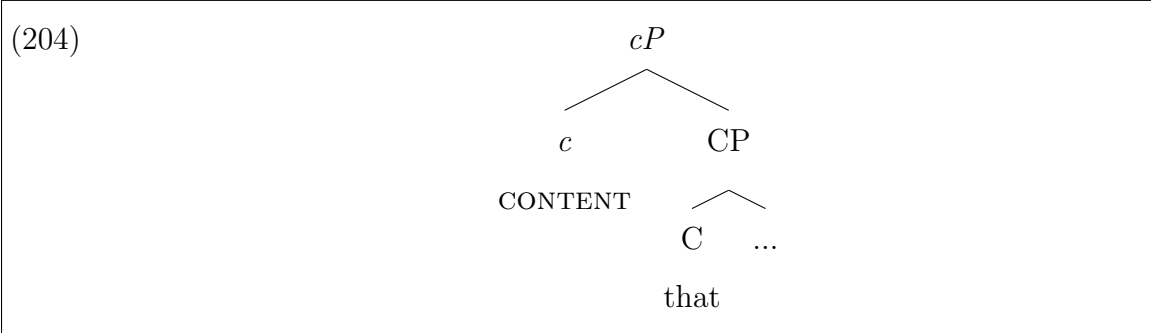
- (i) $\llbracket \text{TP} \rrbracket = \lambda w. \text{it's raining in } w$
- (ii) $\llbracket \text{C}_{cont} \rrbracket = \lambda p. \lambda x_c. \text{CONT}(x_c) = p$
- (iii) $\llbracket \text{that it's raining} \rrbracket = \llbracket \text{CP}_c \rrbracket = \llbracket \text{C} \rrbracket(\llbracket \text{TP} \rrbracket) =$
 $\lambda x_c. [\text{CONT}(x_c) = \lambda w'. \text{it's raining in } w']$

based on Moulton (2009): 28, (20)

5.1.1.2.2 Modification of embedded content clauses within the *cP* view

In the previous chapter, I proposed that functional perspectival phenomena of various levels of abstraction are hosted by the projection *cP*. Here I add the content function as another type of *c*-head — one that does not project a specifier (similarly to passive *v*). I further propose that in English, the content function is not represented by the morphology of *that*, but by an abstract morpheme, effectively further decomposing the semantics of attitudes. The structure looks as follows:¹⁴⁹

¹⁴⁹For convenience and expositional clarity, the final versions of each part of the proposal are enclosed in a frame.



In addition to the theoretical motivation for splitting *that* and the content function, empirical support comes from the fact that content participates not only in the composition of declarative clauses, but also in interrogative clauses under complementizers different from *that* Uegaki (2015, 2016).¹⁵⁰ Instead of assuming that the same content function is independently contained in the declarative complementizer *that* and the interrogative complementizers *whether*, *if*, it is simpler to regard it as independent from the embedding complementizer.¹⁵¹

The proposal by Moulton (2009) is then translated into my syntactic account as follows, where the difference is that the complementizer *that* is not the carrier of the content function, but little *c* is (subscripted for convenience as c_{CONT}):

(205) **CONTENT c -complementizer, final version:**

$$\llbracket c_{\text{cont}} \rrbracket (\neq \llbracket \mathbf{that} \rrbracket) = \lambda p. \lambda x_c. \text{CONT}(x_c) = p$$

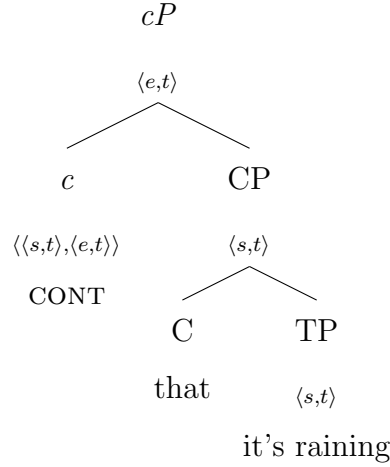
A sample derivation is provided in (206):

¹⁵⁰See Elliott (2017): §2.8 for more arguments for splitting the complementizer from the content function.

¹⁵¹Further empirical support for this view comes in the next subsection, §5.1.2.2-§5.1.2.3, which shows that light *say* complementizers ((224)) are in complementary distribution with the generic content complementizer CONT presented in (205).

(206) **Embedded content clauses, final version:**

[that it's raining]_{CONT}



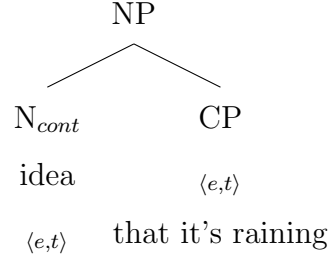
- a. $\llbracket \mathbf{CP} \rrbracket = \llbracket \mathbf{TP} \rrbracket = \llbracket \mathbf{that \ it's \ raining} \rrbracket = \lambda w. \text{it's raining in } w$
- b. $\llbracket c \rrbracket = \llbracket \text{CONT} \rrbracket = \lambda p. \lambda x_c. \text{CONT}(x_c) = p$
- c. $\llbracket cP \rrbracket = \llbracket c \rrbracket(\llbracket \mathbf{CP} \rrbracket) = \llbracket \text{CONT} \rrbracket(\llbracket \mathbf{that \ it's \ raining} \rrbracket) = \lambda x_c. [\text{CONT}(x_c) = \lambda w'. \text{it's raining in } w']$

5.1.1.3 Matrix clause: content nouns

When modifying contentful nouns, such as *idea*, *theory*, *hypothesis*, Moulton (2009) proposes that the embedded predicate of contents composes with the noun it modifies via Predicate Modification. This is because, he argues, the modifying clause is not a syntactic argument to the noun.¹⁵² Therefore it composes as a modifier in the semantics as well, as illustrated in the following derivation:

¹⁵²For the full discussion and arguments in support of this claim see citemoulton09: Chapter §2. For the purposes here it is sufficient that Moulton (2009) concludes that the embedded clause is neither a syntactic, nor a semantic argument to the noun it modifies, i.e. preserving the syntax-semantics correspondence.

(207) the idea that it's raining

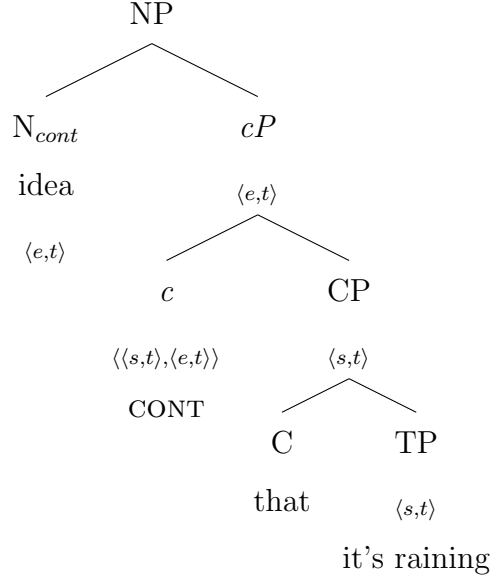


- (i) $\llbracket \mathbf{CP} \rrbracket = \lambda x_c. [\text{CONT}(x_c) = \lambda w'. \text{it's raining in } w']$
- (ii) $\llbracket \mathbf{N} \rrbracket = \llbracket \mathbf{idea} \rrbracket = \lambda y_c. \text{idea}(y)$
- (iii) $\llbracket \mathbf{NP} \rrbracket \stackrel{\text{PM}}{=} \lambda z_c. \text{idea}(z)(w) \wedge [\text{CONT}(z) = \lambda w'. \text{it's raining in } w']$
based on Moulton (2009): 28, (20)

Given the discussion of embedded clauses in §5.1.1.2.2, the translation of Moulton's analysis of the composition of content nouns into my proposal is trivial. For exhaustiveness, I provide it in (208).

(208) **Noun modifying content clauses, final version:**

the idea_c [that it's raining]_{CONT}



- a. $\llbracket \mathbf{CP} \rrbracket = \llbracket \mathbf{TP} \rrbracket = \lambda w. \text{it's raining in } w$
- b. $\llbracket c \rrbracket = \llbracket \text{CONT} \rrbracket = \lambda p. \lambda x_c. \text{CONT}(x_c) = p$
- c. $\llbracket cP \rrbracket = \llbracket c \rrbracket (\llbracket \mathbf{CP} \rrbracket) = \llbracket \text{CONT} \rrbracket (\llbracket \text{that it's raining} \rrbracket) =$
 $\lambda x_c [\text{CONT}(x_c) = \lambda w'. \text{it's raining in } w']$
- d. $\llbracket \mathbf{N} \rrbracket = \llbracket \text{idea} \rrbracket = \lambda y_c. \text{idea}(y)$
- e. $\llbracket \mathbf{NP} \rrbracket \stackrel{\text{PM}}{=} \lambda z_c. \text{idea}(z) \wedge [\text{CONT}(z) = \lambda w'. \text{it's raining in } w']$

Can this approach be used when it comes to how embedded content clauses compose with matrix verbs? This is the topic of the next two subsections. In §5.1.1.4, I show how Elliott (2017) applies it, modifying Kratzer's 2006 proposal. In §5.1.1.4.2, I point out some challenges to Elliott's approach, and in §5.1.1.5, I present my proposal.

5.1.1.4 Matrix clause: content verbs

The idea that *that*-clauses do not compose with attitude verbs as their arguments is presented in §5.1.1.4.1. It has the benefit of a unified compositional analysis of content *that*-clauses under nouns and verbs, but faces a number of issues, which are pointed out in §5.1.1.4.2.

In my proposal, in §5.1.1.5 the idea that the content clause is the same under content nouns and under content verbs is preserved, without facing the issues raised below.

5.1.1.4.1 Elliott (2017) Elliott (2017) extends the proposal of Moulton (2009) for content clauses modifying matrix content nouns, presented in §5.1.1.3, to finite *that*-clausal arguments embedded under attitude verbs (which we can dub CONTENT VERBS), composing attitude verbs with embedded clauses also by the compositional rule of Predicate Modification (Heim and Kratzer, 1998). This is possible under the neo-Davidsonian assumption that events and individuals are ontologically the same (Davidson, 1967, idea adapted by Castañeda, 1967; Parsons, 1990, used recently in Kratzer, 2006; Hacquard, 2006; Moulton, 2009; see Elliott, 2017: §1.4 for more information). This assumption allows Elliott (2017) to postulate that some events can have content (also in Hacquard, 2006) and that *that*-clauses are modifiers, not arguments, which in turn results in the following bleached semantics for attitude verbs:¹⁵³

$$(209) \quad \llbracket \textbf{thinks} \rrbracket = \lambda e_c. \text{thinking}(e) \quad \text{after Elliott (2017): (85d)}$$

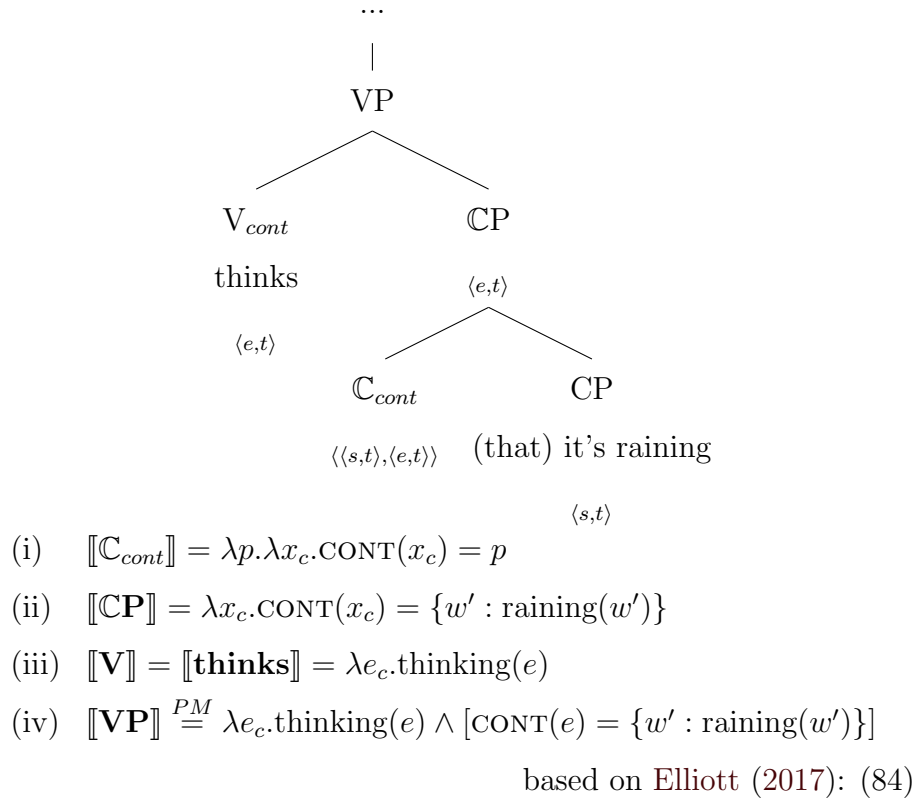
For the embedded clause, the idea is the same as in Moulton (2009), with the only difference that Elliott (2017) assumes that the content complementizer is not *that* (in English), which is assumed to be semantically vacuous, but an abstract element in a

¹⁵³A recent proposal that also treats attitude verbs as intransitive is Demirok et al. (2018). It faces the same issue of syntax-semantics correspondence presented below in §5.1.1.4.2.

projection higher than CP, which he labels $\mathbb{CP}$.

(210) Brandon thinks it's raining

Analysis by Elliott (2017):



While Elliott's projection $\mathbb{CP}$ and my cP seem similar, there are a few important conceptual differences between them. For Elliott (2017), $\mathbb{CP}$ only hosts content and only embedded clauses can have a $\mathbb{CP}$ layer. Under my proposal presented in Chapter §4, cP is not restricted to one head, but hosts various functional attitudinal phenomena, i.e. not all embedded cP clauses are contentful (see the next section, §5.2, for more details and examples) and matrix clauses also have a cP layer. Thus,

my concept of *cP* encompasses Elliott’s idea of CP, but is not limited to it.¹⁵⁴

The idea that *that*-clauses do not compose with attitude verbs as their arguments has the benefit of a unified compositional analysis of content *that*-clauses under nouns and verbs, but in its formulation by Elliott (2017), it faces a number of issues, some of which are listed next (§5.1.1.4.2).

5.1.1.4.2 Challenges of Elliott’s 2017 approach There are at least two major concerns with Elliott’s approach: (i) it disregards syntax-semantics correspondence principles; (ii) this leads to undesirable syntactic consequences; (iii) it is too strong in that it claims that all embedded clauses are content clauses.

The first issue is one of syntax-semantics correspondence. In order to adapt the proposal in Moulton (2009) to verbs, Elliott (2017) adopts what he calls a ‘severing everything’ approach: that verbs have no internal arguments at all, i.e. the embedded clause is not a syntactic argument to the matrix predicate and compositionally does not merge with it under the compositional rule of Function Application but via Predicate Modification (Heim and Kratzer, 1998), like in the noun cases. While at first sight, Elliott (2017) seems to be following Moulton (2009) conceptually in applying his analysis of content nouns to content verbs, there is a significant difference in the premise. As mentioned in §5.1.1.3, Moulton (2009) (his Chapter §2) provides structural justifications for the use of Predicate Modification instead of Function Application, by showing that the embedded content clause is an adjunct (semantically a modifier), not a syntactic or semantic argument cf. (211a). Therefore Moulton’s use of Predicate Modification follows the principles of compositionality and the semantics is in direct parallel with the syntax. When it comes to intensional verbs, however, there is no reason to regard them as syntactically intransitive, cf. (211b).¹⁵⁵

¹⁵⁴In addition, Elliott (2017) does not discuss the possibility of CP having argument structure. But this is so because it is not needed in the cases he analyzes.

¹⁵⁵The same is true of perceptual predicates, too, (i) anticipating the discussion on them in §5.2.1:

- (211) a. Brandon liked the idea (that evidentiality and logophoricity are related).
 b. Brandon said *(that evidentiality and logophoricity are related).

In this way, Elliott (2017) sacrifices the principle of compositionality for a unified account of content nouns and verbs. Such a sacrifice may have been warranted if there were no other way of solving the issue. However, in §5.1.1.5 I propose such an alternative solution.

Another undesirable consequence (which stems from the lack of differentiation between arguments and modifiers) is that now complement *that*-clauses are predicted to behave like adjunct islands — since they are no longer arguments — and disallow Wh-extraction, predicting (212) to be ungrammatical where it is and not predicting the differences between the allowed Wh-extraction from under an intensional verb, (212), and the disallowed Wh-extraction from an adjunct, (213):

- (212) Who do you think Myriam invited <who>?
 (213) * Who did you jump [when Myriam invited <who>?

The difference between the grammaticality of (212) and (213) has been standardly attributed to Wh-extraction over a clausal complement in (212) and over a clausal adjunct in (213). This difference is lost under the view of Elliott (2017). While it may be possible, it is not presently clear to me how Elliott (2017) could account for this difference in an alternative way, and he does not discuss this either.

Thus, Elliott's analysis of clausal arguments to communicative verbs as semantic modifiers/syntactic adjuncts runs counter to the basic assumptions of correspondence between syntax and semantics.

Another challenge to Elliott's proposal is that it is too strong: he claims that

(i) Brandon saw *(that evidentiality and logophoricity are related).

all embedded clauses are content clauses. To see why this cannot be sustained, let's consider the two examples used when the concept of content was first presented in §5.1.1.2 and defined as follows, repeated from (199):

- (214) $\text{CONT}(x_c)(w) \stackrel{\text{def}}{=} \{w' : w' \text{ is compatible with the intensional content determined by } x_c \text{ in } w\}.$

Undefined if x doesn't have intensional content.

Moulton (2015): (19a), Kratzer (2016): 33

- (215) the idea that it's raining

- (216) # the apple that it's raining

Given the definition of CONTENT in (214), a content clause may modify only content nouns, such as *idea*, and not elements that do not have intensional content, such as *apple*, (216).

Nouns like *apple*, however (and in fact every other noun), **can** be modified by clauses, just not **content** clauses. For example, they can be modified by relative clauses:

- (217) the apple [that Gita ate <apple>]

If the *that*-clause modifying *apple* in (217) was a content clause, it should yield infelicity just as the content clause in (216) does, because *apple* is a noun with no intensional content, (214). Elliott's proposal predicts (217) to be ungrammatical. It is true that both the relative clause and the content clause are semantically predicates and syntactically adjuncts, so it may be tempting to compose them in the same way. But they are not the same **kind** of predicate:

- (218) a. **relative clause**: $\lambda x. \text{Gita ate } x$
b. **content clause**: $\lambda x_c. \text{CONT}(x) = p$

In addition to relative clauses, there are non-relative clauses that do not relate to content (and are not predicates). For example, perception predicates like ‘see’ would have the undesirable interpretation that *see* is an intensional predicate.¹⁵⁶

Elliott (2017) could have avoided this problem for relative clauses by constraining the view that *that*-clauses are content clauses to complements of communicative predicates specifically. However, an approach that derives these differences is preferred.

In addition, the concept of **contentful events** may be obsolete given the opening discussion in §5.1.1.1. Moulton (2009) points out that all content verbs have a derived content noun (e.g. *think* — *thought*), but not all content nouns have a verb counterpart, e.g. *idea*. This, together with the fact that even content-related events such as *thinking* are not restricted to *that*-clauses but can take an overt contentful noun as their argument (*I believe the claim that p*), suggests that such verbs relate to content not directly, but via a contentful individual, and this is the approach I pursue and introduce next.

5.1.1.5 Communicative predicates: proposal

I propose that content *that*-clauses are syntactic and semantic arguments to attitude verbs like *say* (219b), while keeping the insights by Moulton (2009) laid out in the preceding discussion, that noun-modifying content clauses, (219a), are not syntactic arguments to the matrix noun (the analysis of (219a) was provided in (208)).¹⁵⁷

- (219) a. Brandon liked the idea (that evidentiality and logophoricity are related).
 b. Brandon said *(that evidentiality and logophoricity are related).

¹⁵⁶I discuss perception predicates in detail in the next section, §5.2.

¹⁵⁷The same holds for complements to perceptual predicates, like *see*, in the next section.

- (i) Brandon saw *(that evidentiality and logophoricity are related).

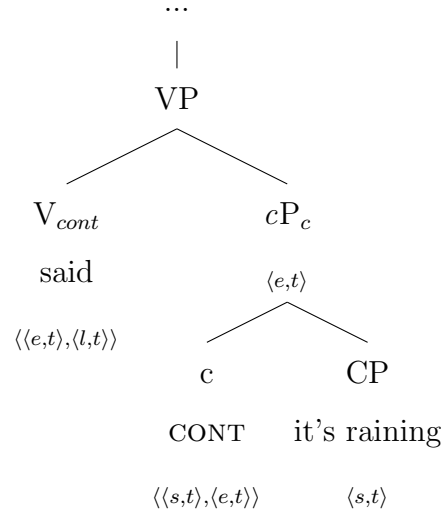
Based on the preceding discussion on content in this section, I propose that content is mediated by a contentful **individual** also in the case of the composition of content verbs. The verb *say* is represented as an event of saying **something** with intensional content, and the content of that thing is provided by the embedded clause. This is formalized as follows, where the predicate is subscripted P_c , which stands for predicate of contents, not for a semantic type. The semantic type could be represented as $\langle e_c, t \rangle$, but according to Moulton (2009), contentful individuals are not ontologically different from non-contentful individuals, i.e. being contentful is not a type, see again the discussion in §5.1.1.2. Correspondingly, the contentfully flavored cP denoting that predicate is notated cP_c , which again is a notation of convenience.

(220) Lexical communicative attitude verbs: $\llbracket \textbf{say} \rrbracket = \lambda P_c. \lambda e. \exists x_c [\text{saying}(e)(x) \wedge P(x) = 1]$
--

Now we have all the necessary components to compose sentence (219b).

Derivation of sentences with communicative attitudes:

(221) Brandon said it's raining.



- (i) $\llbracket c_{cont} \rrbracket = \lambda p. \lambda x_c. [\text{CONT}(x_c) = p]$
- (ii) $\llbracket cP_c \rrbracket = \lambda x_c. [\text{CONT}(x_c) = \{w' : \text{raining}(w')\}]$
- (iii) $\llbracket \text{say} \rrbracket = \lambda P_c. \lambda e. \exists y_c [\text{saying}(e)(y) \wedge P(y) = 1]$
- (iv) $\llbracket VP \rrbracket = \llbracket \text{say} \rrbracket(\llbracket CP \rrbracket) = \lambda e. \exists y_c [\text{saying}(e)(y) \wedge \text{CONT}(y) = \{w' : \text{raining}(w')\}]$

This analysis achieves the goal set above: the embedded intensional content clause is a syntactic argument of the matrix verb, while avoiding the undesirable effects of Elliott (2017) pointed out in §5.1.1.4.2, and at the same time in line with the compositional approach.

Another desirable consequence of the analysis of content clauses is that it correctly predicts the fact that content *that*-clauses are not factive:¹⁵⁸

¹⁵⁸One consequence of this analysis is that the clauses embedded under factive nouns like ‘fact’ cannot be content clauses. Evidentials in Bulgarian provide support for that, because reportative-marked clauses, analyzed here as content clauses, can be embedded by ‘rumour’ (ia) but not ‘fact’ (ib), while it is the opposite for direct evidential marked clauses, analyzed in §5.2 as fact-headed

(222) Tully said [_{CONT} that Lisa jumped from the tree] but she didn't.

(223) The claim [_{CONT} that Lisa jumped from the tree] is false.

This was achieved with an update of the original decompositional approach, while following it in spirit, by further decomposing the notion of content from the complementizer *that* into a *c*-head and extending it to clauses embedded under communicative verbs.

With this analysis of lexical communicative attitudes in mind, we can now get to its application to functional communicative attitudes.

5.1.2 Light communicative predicates: reportatives and *say*-complementizers

My proposal on the semantics of light SAY (as represented by reportative evidentials and logocentric *say*-complementizers builds) on three key points from each of the preceding chapters: (i) the meaning of functional attitudes is contributed at the presuppositional level, from §2.4.1 in Chapter §2; (ii) light attitudes have argument structure, as argued in §3.3 in Chapter §3 (relating evidentiality and logophoricity) and with a specific formal syntactic proposal in §4.3 in Chapter 4; (iii) the analysis of lexical communicative predicates presented in the preceding subsection (§5.1.1).

Based on these points combined, my proposal for light SAY is that it introduces

clauses.

- (i) a. sluha che Lisa ✓**skochila**/***skochi**...
rumour that Lisa jumped.REP/DIR
- b. fakta che Lisa ***skochila**/✓**skochi**...
rumour that Lisa jumped.REP/DIR

This suggest that the same distinctions found in this chapter for clausal complements to predicates hold also for clausal complements to nouns.

a content individual (y_c), as well as a presupposition that there exists an event of saying (of that individual), whose attitude holder (HOL) is the specifier of cP .¹⁵⁹

(224) $\llbracket \text{SAY} \rrbracket = \lambda p. \lambda x_e. \exists y_c [\text{CONT}(y_c) = p]$; Defined only if $\exists e [\text{SAY}(e)(y_c) \wedge \text{HOL}(e)(x)]$

This approach captures both the similarities between light and lexical attitudes and their differences. The most important similarity is that light attitudes have an attitude predicate meaning and an attitude holder. Important differences include that this meaning is encoded as a presupposition, and that light SAY fuses the embedded complementizer's contribution with that of the matrix lexical predicate. In this way, the meaning of light SAY is richer than that of either lexical attitudes or content complementizers alone. This richer meaning allows light *say* to be used in both matrix (§5.1.2.1) and embedded clauses (§5.1.2.2-§5.1.2.3), while the generic content complementizer is only found in embedded clauses. In addition, when used in embedded clauses, light SAY has a distinct, richer contribution than the generic content complementizer (which it is in complementary distribution with).

5.1.2.1 Light *say* in matrix clauses

I proposed in (224) that SAY-heads introduce contentful individuals and a presupposition of a saying event of that individual. This allows light SAY to be felicitously used in matrix clauses, which covers the matrix use of reportative evidentials, such as in example (225).¹⁶⁰

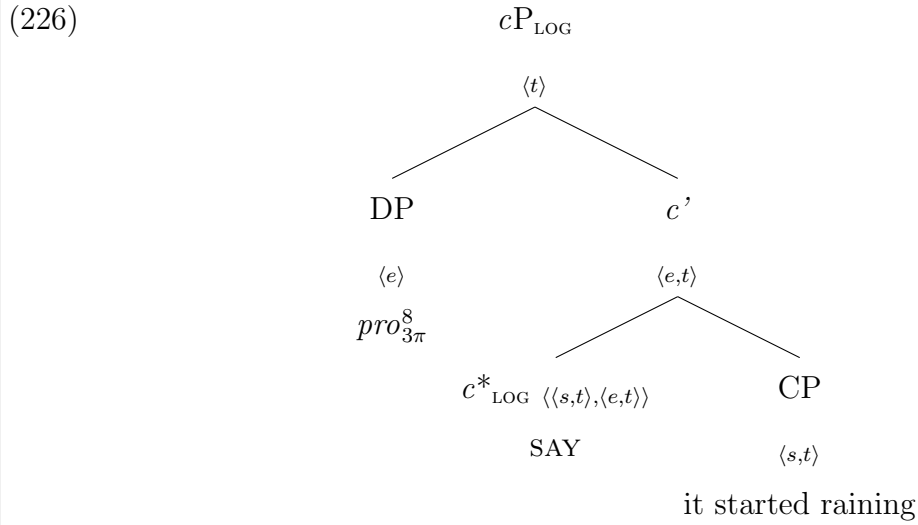
The derivation of (225) is provided in (227) based on the tree in (226). The

¹⁵⁹The cP whose head is light SAY projects a specifier, unlike the cP whose head is just the content function.

¹⁶⁰Recall from Chapter §3 that logophoric *say*-complementizers are fused with the function of the subordinating complementizer *that*, unlike evidential markers. This means that, unlike English *that*, there is evidence that the content function and the clausal subordinator in logophoric languages are fused. This allows to correctly rule out their appearance in matrix clauses.

light SAY *c*-head takes a propositional argument and returns it as the content of a contentful individual. This is similar to what Moulton (2009, 2015) proposes for content complementizers of *that*-clauses. The difference between a bare content-function complementizer and SAY is that, in the case of the content function, the output of the complementizer is a predicate of contentful individuals, while light SAY introduces a contentful individual instead of being a function of one. In addition, light SAY introduces, as a presupposition, a saying event whose object the contentful individual is. As argued in Chapter §4, *cP* projects a specifier that hosts the (third person) attitude holder of the saying event, *x*. This guarantees that the use of a reportative evidential marker induces a speech report: a matrix reportative evidential sentence is defined only if there exists a saying event of a contentful individual, and true if and only if the content of that individual, i.e. what was said, is its scope proposition (in this example, that it started raining), which is its interpretation in both main (here) and embedded (next) clauses.

- (225) Zavaljalo.
start.rain.REP
'It started raining, *someone said*.'



- (227) a. $\llbracket \mathbf{CP} \rrbracket = \lambda w. \text{it's raining in } w$
 b. $\llbracket c^* \rrbracket = \llbracket \text{REP} \rrbracket = \lambda p. \lambda x_e. \exists y_c [\text{CONT}(y_c) = p];$
 Defined only if $\exists e [\text{SAY}(e)(y_c) \wedge \text{HOL}(e)(x)]$
 c. $\llbracket pro_{3\pi}^8 \rrbracket^g = g(8)$ (defined only if third person)
 d. $\llbracket cP \rrbracket = \llbracket c' \rrbracket(\llbracket \mathbf{DP} \rrbracket) = \exists y_c [\text{CONT}(y_c) = \{w' : \text{started raining}(w')\}]$
 $\llbracket cP \rrbracket$ defined only if $\exists e [\text{SAY}(e)(y_c) \wedge \text{HOL}(e)(g(8))]$

Before moving on to embedded clauses, I would like to take a moment here to acknowledge the somewhat theoretically odd effects of the proposal in matrix clauses and to appreciate some of their benefits. The awkwardness consists in that the function of the reportative evidential is effectively to legitimize the matrix, independent use of what is otherwise recognized as an embedded clause under an attitude verb (as discussed in detail in the previous subsection, §5.1.1). In a sense, I am promoting a subordinated clause into self-sufficiency as a stand-alone matrix clause. We know that evidential markers are widely available in matrix clauses, even in languages where

they might not be allowed in embedded clauses at all (as discussed in Chapter §2). So is this embedded-like representation of evidentials in matrix clauses reasonable?

Independent typological evidence supports my theoretical approach. Aikhenvald (2004): §3, §4, §9 notes that a typologically popular developmental strategy for non-dedicated functional evidentials is to ‘de-subordinate’ moods or other morphology (including clausal nominalization) that otherwise appear only in (intensional) embedded clauses into matrix indirect, most often reportative, evidential.¹⁶¹ This is like the reverse of Main Clause Phenomena — matrix clause effects observed in embedded clauses. Now we deal with embedded clause effects observed in matrix clauses giving rise to evidential interpretation. The range of forms used for de-subordination varies across languages, but the result is strikingly similar. These findings lend typological credibility to the theoretical proposal advanced here, while in turn my proposal offers a theoretical explanation of why this grammaticalization path of evidentiality is so popular among languages with no geographical or genealogical relation.

5.1.2.2 Light *say* in embedded clauses: the case of *think*

For the use of light SAY clauses as embedded clauses, (228), we can see that the reportative *cP* we have in (226) and (227d), represented here in (231), cannot directly compose with the matrix lexical predicate *think*, (228) from Bulgarian and (229) from Tagalog, which, as per the denotation in (230) (based on (220) in §5.1.1.5) needs a predicate of contentful individuals. The crash is illustrated in (232).

- (228) Yavor misli, che zavaljalo.
 Yavor thinks that start.rain.REP
 ‘Yavor thinks that it started raining (he said so).’

- (229) Naniniwala si Nenita na nakakakita (**daw**) si Jenilyn ng multo
 believe nom Nenita that able.to.see REP nom Jenilyn gen ghosts
 ‘Nenita believes (and also said) that Jenilyn can see ghosts.’

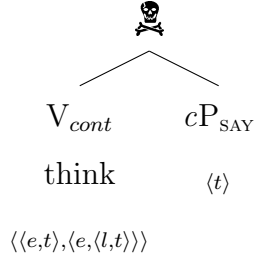
¹⁶¹See also the term INSUBORDINATION in Evans (2007) with regards to a large array of phenomena, one of which is evidentiality (§11.3.2.1).

$$(230) \quad \llbracket \mathbf{think} \rrbracket = \lambda P_e. \lambda e. \exists x_c [\text{thinking}(e)(x) \wedge P(x) = 1]$$

$$(231) \quad \llbracket c\mathbf{P} \rrbracket = \exists y_c [f\text{CONT}(y_c) = \{w' : \text{started raining}(w')\}]$$

defined only if $\exists e [\text{SAY}(e)(y_c) \wedge \text{HOL}(e)(pro)]$

$$(232) \quad * \text{ think} + c\mathbf{P}_{\text{SAY}}$$



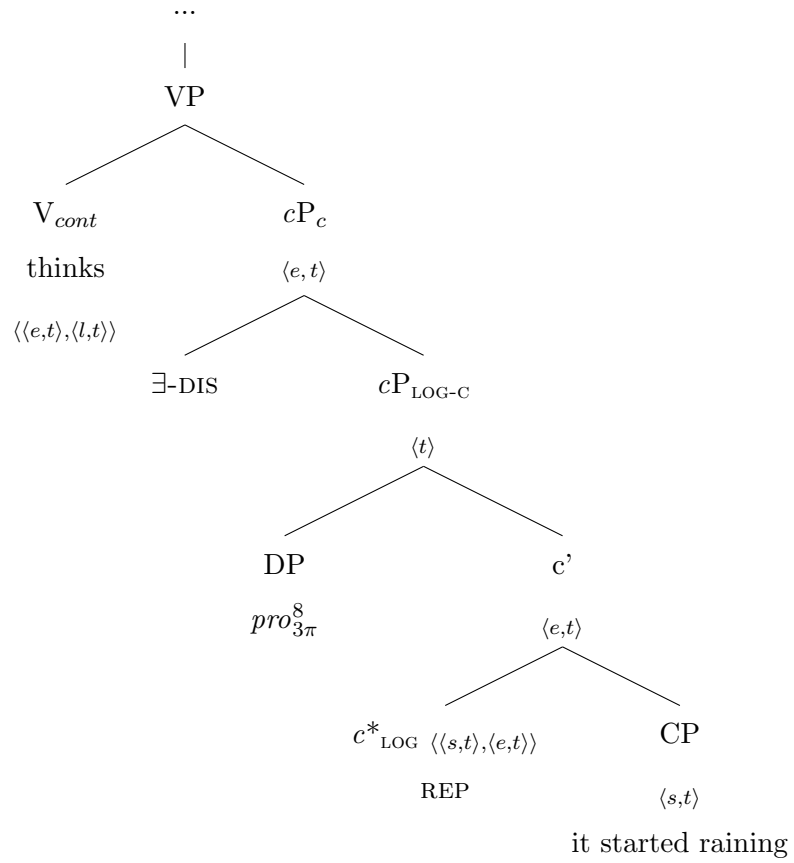
This is another somewhat odd result of allowing what would otherwise be an embedded clause to function as a standalone matrix clause: now it cannot be ‘plugged in’ directly as an embedded clause. In §5.1.2.1 I proposed that matrix reportative clauses are like desubordinated embedded clauses. Now the puzzle is that they need to be resubordinated in order to become syntactically embedded clauses again.

To turn the now embedded SAY-clause into a predicate of contents again, we need to liberate the y_c variable bound by the existential operator in (231). I appeal here to EXISTENTIAL DISCLOSURE, which has been introduced for such purposes first by Dekker (1993) and Chierchia (1995) in dynamic semantics but later employed as a type-shifting rule in non-dynamic semantics, to analyze various linguistic phenomena, such as quantifiers, intervention effects and NPI (Honcoop, 1996), involuntary dative constructions (Rivero, 2001, 2003; Rivero and Sheppard, 2003), internally headed relative clauses (Grosu and Landman, 2012), *some*-indefinites (Becker, 1999), a.o. The disclosure rule (notation used here $\exists$ -DIS and **informally** represented in the tree at the place where it applies, as a notational device) opens an existentially bound variable up for further quantification, and this is exactly what we need here for the contentful element y_c . The disclosure rule turns the content clause into a content predicate, which can then compose with the matrix verb as non-evidentially marked

content predicates do (i.e. as in (221) in §5.1.1.5):

Embedded reportative under intensional predicates:

- (233) Zlati misli, che zavaljalo.
 Zlati thinks that start.rain.REP
 ‘Zlati_i thinks, (as he said) that it started raining.’ [Bulgarian]



The derivation follows on the next page.

(234) Derivation of (233):

- (i) $\llbracket c^* \rrbracket = \llbracket \text{REP} \rrbracket = \lambda p. \lambda x_e. \exists y_c [\text{CONT}(y_c) = p]$
 Defined only if $\exists e [\text{SAY}(e)(y_c) \wedge \text{HOL}(e)(x)]$
- (ii) $\llbracket \text{pro}_{3\pi}^8 \rrbracket^g = g(8)\text{Zlati}$
- (iii) $\llbracket c' \rrbracket = \llbracket c^* \rrbracket(\llbracket \text{CP} \rrbracket) =$
 $\lambda x_e. \exists y_c [\text{CONT}(y) = \{w' : \text{started raining}(w')\}]$
 Defined only if $\exists e [\text{SAY}(e)(y) \wedge \text{HOL}(e)(\text{pro})]$
- (iv) $\llbracket c\text{P} \rrbracket = \llbracket c' \rrbracket(\llbracket \text{DP} \rrbracket) =$
 $\exists y_c [\text{CONT}(y)(w) = \{w' : \text{started raining}(w')\}]$
 Defined only if: $\exists e [\text{SAY}(e)(y) \wedge \text{HOL}(e)(\text{Zlati})]$
- (v) $\llbracket c\text{P}_c \rrbracket = \langle \exists\text{-DIS} \rangle = \lambda z_c. [\text{CONT}(z)(w) = \{w' : \text{started raining}(w')\}]$
 Defined only if $\exists e [\text{SAY}(e)(z) \wedge \text{HOL}(e)(\text{Zlati})]$
- (vi) $\llbracket \text{think} \rrbracket = \lambda P_c. \lambda e. \exists m_c [\text{thinking}(e)(m) \wedge P(m) = 1]$
- (vii) $\llbracket \text{VP} \rrbracket = \llbracket \text{think} \rrbracket(\llbracket c\text{P}_c \rrbracket) =$
 $\lambda e. \exists m_c [\text{thinking}(e)(m) \wedge \text{CONT}(m) = \{w' : \text{started raining}(w')\}]$
 Defined only if $\exists e [\text{SAY}(e)(m) \wedge \text{HOL}(e)(\text{Zlati})]$

After adding the external argument in the matrix clause, we get the truth conditions that the sentence is true if and only if Zlati thinks that it started raining and defined only if Zlati said that it started raining. This captures formally the discussion of the meaning of the reportative in §3.3: that it contributes a speech report under *think*.

Starting with the interpretation of reportative evidentials under *think* can help understand their controversial interpretation under *say*.

5.1.2.3 Light *say* under matrix *say*

Equipped with the understanding of how light SAY attitudes are interpreted under *think*, we can now evaluate their meaning under the verb ‘say’, which in the evidential literature has been noted to be somewhat mysterious: under the verb *say*, reportative

evidentials seem to be either not interpreted at all, or interpreted as repeating or somehow reinforcing the matrix predicate, as the following citations indicate:

(235) **Existing hypotheses about the meaning of the reportative evidential in embedded clauses:**

- a. “[the reportative] evidential does not make any contribution on its own, but only harmonically supports the meaning of the utterance predicate”

Schenner (2010b): 200 (on German)

- b. “[the reportative] evidential just repeats the content of the attitude verb”

Korotkova (2016): 234, fn. [93] (on Georgian)

- c. “[the reportative] *ku7* merely reinforces matrix verb of telling”

Matthewson et al. (2007): p. 230 (on St’át’imcets)

- d. “when occurring in an embedded clause of the right kind, [the reportative evidential] *daw* is mostly treated as vacuous”

Schwager (2010): 233 (on Tagalog)

The elusive interpretation of the reportative under *say* can be understood by computing its derivation, which is analogous to that under *think* in (233) and (234):

- (236) Reni kaza, che **zavaljalo**.
 Reni said.dir that rain.REP
 ‘Reni said that it started raining.’ [Bulgarian]

- (237) $\llbracket (236) \rrbracket = 1$ iff Reni said that it started raining and defined only if Reni said that it started raining.

The contribution of the reportative marker indeed seems redundant and repetitive,

as previous researchers point out, their thoughts summarized in (235). However, there are at least three reasons to keep this final result. One argument comes from the examples with *think* above, (233), which showed that the reportative is interpreted in embedded clauses. To propose a different semantics for the reportative exclusively for those cases when it is embedded under *say* is not theoretically optimal.

The second argument comes from the first-person effects discussed in §3.3.1 that hold for both logophoricity and reportative evidentiality: a reportative evidential or a *say*-complementizer in the embedded clause is infelicitous under first person matrix subjects, as shown in (238b) and (239b), repeated from Chapter §3, §3.3.1.2.¹⁶²

(238) **Logophoric language with matrix communicative predicate:**

- a. **Yo** **inyem**ε yogo boojem gi
 3SG LOG tomorrow go-PRG:1SG said.3SG
 ‘{He/She}_i said that {he/she}_i will leave tomorrow.’
- b. ***Mi** **inyem**ε yogo bojem gim
 1SG.SUBJ LOG tomorrow go-PRG:1SG said.1SG
 Intended: ‘I said that I will leave tomorrow.’

[Donno So] Culy (1994b): 114, (3)

(239) **Evidential language, matrix communicative predicate:**

- a. S<in>abi **niya** na gusto **daw** ni Lemuel si Dennis.
 <PFV>say(PV) 3SG.GEN C like REP GEN Lemuel NOM Dennis
 ‘He said that Lemuel likes Dennis.’
- b. *S<in>abi **ko** na gusto **daw** ni Lemuel si Dennis.
 <PFV>say(PV) 1SG.GEN C like REP GEN Lemuel NOM Dennis
 Intended: ‘I said that Lemuel likes Dennis.’

¹⁶²Felicitous sentences with first person are not evidentially marked and are thus trivially derived from the analysis in §5.1.1. For logophoric languages, the grammatical way to say ‘I said that I will leave’ is simply with a first person pronoun instead of a logophoric pronoun.

[Tagalog]

If the embedded light SAY was not interpreted under lexical *say*, the b-sentences (238b), (239b) should be felicitous. Under my analysis, they are ruled out by virtue of the syntactic restriction on the pronominal argument in Spec, *cP*: the ungrammatical sentences here crash because of ϕ -features disagreement, which reflects the perspective restriction of light attitudes (see also the discussions of perspective in Chapter 3: §3.2.2 and §3.3.1).¹⁶³

The third reason to keep the analysis of reportative evidentials intact despite the putative redundancy it causes in the case of the verb *say* comes from the fact that the embedded reportative is rendered ungrammatical when matrix *say* is negated:

- (240) Context: I just spoke to Vanko on the phone about the weather over there.
He said that it's sunny but...

#Vanko **ne** kaza, che **valjalo**.
Vanko not said that rain.REP
Intended: 'Vanko didn't say that it's raining.'

[Bulgarian]

¹⁶³This applies to both reportative evidentials and logocentric *say*-complementizers. Such outcome is already anticipated in Clements' syntactic analysis, in which there are two instances of 'say': one coming from the (optionally overt) verb, and one coming from the complementizer:

- (i) Kofi be **yè** va.
Kofi *say*-COMP LOG come
'Kofi said that he (=Kofi) came.'

[Ewe], Clements (1975): 168

- (ii) Analysis of (i) by Clements (1975): 168, (65)
Kofi_i said *say*-COMP he_i came.

The idea of Clements (1975) is now semantically formalized in my proposal and supports once again the parallel between reportative evidentials and *say*-complementizers advocated in this dissertation.

The hypothesis that the embedded evidential simply does not have any semantic contribution is falsified by this example, because it is the presence of the reportative that makes (240) unacceptable. To convey the intended meaning sentence (240) grammatical, the evidentially unmarked present tense would be used instead of a reportative marked form:

- (241) Vanko ne kaza, che **vali**.
 Vanko not said that rain.PRES.3SG
 ‘Vanko did not say that it’s raining there.’

[Bulgarian]

To my knowledge, data with evidential markers in embedded clauses and matrix negation has not been discussed in the literature (either theoretical or descriptive). The cross-linguistic landscape remains to be investigated. But for now the evidence from Bulgarian for a clash between matrix negation and the embedded reportative shows further evidence that the embedded reportative is indeed interpreted, falsifying the hypothesis that it is vacuous.

Under my analysis, sentence (240) is ruled out because the negation only targets the at-issue content, but not the presupposition that there was a saying event, which is still interpreted and thus gives rise to a contradiction.

To sum up, here is how my proposal informs the three existing hypotheses on the meaning of reportative evidentials in embedded clauses under *say*, summarized here from (235):

- (242) Existing hypotheses about the meaning of reportative evidentials in embedded clauses:
- a. H1: it does not have any contribution of its own (Schenner, 2010b; Schwager, 2010)
 - b. H2: it repeats the matrix predicate under which it appears (Korotkova, 2016)

- c. H3: it somehow reinforces the matrix verb (Matthewson et al., 2007).

The first hypothesis, H1, was rejected: I showed that the reportative is interpreted under *say* and is not vacuous.

The second hypothesis is true only under the verb *say* by virtue of coincidence and not sustainable when other matrix predicates are considered. We do not wish to end up with an analysis where the meaning of the reportative changes depending on a matrix predicate (e.g. meaning light THINK when under lexical *think*, meaning light IMAGINE under lexical *imagine* etc.), because it was shown that in the case of verbs like *think*, the reportative marker contributes a presupposition of a report, §5.1.2.2. Furthermore, if the meaning of an embedded evidential is dependent on the matrix verb, it would have to be drastically different from the meaning of the matrix evidential.

The third hypothesis, the idea of ‘reinforcing’ used by previous researchers looking at the interpretation of embedded reportatives (under *say*) can be understood in the context of my proposal as follows. Under the analysis here, a sentence like ‘Reni said that it started raining’ with no evidential and a sentence like ‘Reni said [REP that it started raining]’ have underlyingly different semantics, even if the presupposition does not seem to do much in this one case. I suggest that this seeming redundancy reflects what previous researchers have descriptively called a support reading, or reinforcing reading, as in Matthewson et al. (2007) on St’át’imcets and Schenner (2010a) on German, thus supporting a cross-linguistically unified analysis of reportatives.

5.1.2.4 Evidential shift

The readings of embedded evidentials discussed thus far in this dissertation have not been noted in the literature, to the exception of the works cited above in §5.1.2.3 and summarized in (242), who briefly mention what looks like the disappearance of the reading of reportatives under the matrix verb *say*.

Two other kinds of readings have been noted in the literature: EVIDENTIAL SHIFT in Tibetan (Garrett, 2001) and EVIDENTIAL NO-SHIFT in Georgian (Korotkova, 2016). How do these phenomena compare to the readings presented here, attested in Bulgarian, Tagalog, Azeri, German (Schenner, 2010a), St’át’imcets (Matthewson et al., 2007)? The following review shows that sufficient data for a comprehensive comparison are lacking, leaving it to future research.

The relevant data reported in the literature are as follows. Garrett (2001) analyzes Tibetan as having three kinds of evidential markers (realized on copulas): EGO, INDIRECT, DIRECT, where ego and indirect are in dual opposition, and direct is separate, i.e. they are not in complementary distribution with the same predicates. They are illustrated as follows:

- (243) a. nga dge.rgan **yin**
 I teacher [EGO COP]
 ‘I am a teacher.’
- b. yang.chen dge.rgan **red**
 Yangchen teacher [IND COP]
 ‘Yangchen is a teacher.’
- c. kho da.lta kha.lag za-gi-’**dug**
 he now food eat-[DIR IMP]
 ‘He’s eating now.’ [e.g. I see him]

[Tibetan] Garrett (2001): 13 (2-3), 15 (10)

Being a teacher in Tibetan is a property that is expressed in an ego-non-ego opposition: one either has personal information about oneself, as in (243a), or an impersonal, non-ego information about someone else being a teacher, as in (243b).

Applying this logic to embedded clauses, Garrett (2001) claims that ego/non-ego evidentials yield different interpretations of the reference of an embedded third-person pronoun under a third-person subject such as ‘Tashi said that he is a teacher’. When the embedded clause contains an ego evidential, Tashi is talking about himself (note that there is no indexical shift and the pronoun *kho* ‘he’ is third person); when the

non-ego evidential is used, Tashi is talking about someone else.

- (244) a. bkra.shis kho dge.rgan **yin** lab-gi-'dug
 Tashi he teacher [EGO COP] say-[DIR IMP]
 'Tashi_isays he_{i,%j} is a teacher.'
- b. bkra.shis kho dge.rgan **red** lab-gi-'dug
 Tashi he teacher [IND COP] say-[DIR IMP]
 'Tashi_i says he_j is a teacher.'

[Tibetan] **Garrett** (2001): 209 (1-2)

These data are called 'evidential shift' because the person from whose perspective ego/non-ego is interpreted (what **Garrett**, 2001 calls the EVIDENTIAL ORIGO) is the matrix subject, not the speaker. If it were the speaker, we would expect ego to be possible only with a first person subject, and non-ego to be used with non-speaker subjects, which is not the case.

But **Garrett** (2001) does not discuss data with direct evidentials in Tibetan, and notes that the distinction presented in (244a)-(244b) is traditionally understood as a conjunct-disjunct opposition. Egophoricity is considered a phenomenon distinct from evidentiality, see for a recent overview **Floyd et al.** (2018). Thus, it is difficult to evaluate these data with regards to traditionally understood evidential values. Data with what **Garrett** (2001) calls direct evidentials in Tibetan could have been more informative with respect to shift than the independently governed egophoric system, but they are not provided.¹⁶⁴

Moving on to no-shift, **Korotkova** (2016) presents the following data from Georgian where the embedded indirect evidential is felicitous in a scenario where two sources for the same report are contextually salient: the matrix subject and another person.

- (245) **Context:** Maria and Nana are supervising monks' work on translation. I've heard about it from Nana. Later, Maria also tells me about it.

¹⁶⁴Korean has been claimed to have shifting direct evidentials (**Lee**, 2010), but that claim is controversial, see **Lim and Lee** (2012) for arguments that the construction involves quotation, not shift.

maria-ma mitxra [rom ber-eb-s biblia
 Maria-ERG tell.1SG.IO.AOR COMP monk-PL-DAT Bible.NOM
 kartul-ad **gadautargmniat**
 Georgian-ADV translate.3PL.S.IND.PST
 ‘Maria told me that — *and I was told that already* — the monks trans-
 lated the Bible into Georgian.’ [Georgian] Korotkova (2016):
 (278)

This example shows that the indirect evidential in Georgian is compatible with a context where the speaker has more than one source of reportative evidence. However, it does not show that the evidential is lexically specified for referring to another source. This could be falsified if the embedded evidential is infelicitous in a context where there is only one report source (i.e. sentences analogous to those discussed in §5.1.2.3). The following example shows that this is not the case.¹⁶⁵

(246) Context: The priest is the speaker’s only source of information.

moxudel-ma mitxra rom ber-eb-s
 priest-erg tell.3SG.S.3SG.O.1SG.IO.AOR that monk-pl-dat
 biblia tanamedrove kartul-ad **gadautargmniat**
 Bible.nom modern Georgian-adv translate.3pl.s.3sg.o.ev.pst
 ‘The priest told me that monks translated the Bible into Georgian.’

These sentences do not show whether the indirect evidential is lexically ambiguous between the two interpretations, or they are pragmatically determined. The latter may be the case since the matrix subject in (245) is the source of the report: the embedded evidential could still refer to it and the availability of a second report source may be determined entirely by the pragmatics.

To summarize, the available evidence of shift from Tibetan and of no-shift from Georgian is not sufficient to fully compare them with the readings of evidentials in embedded clauses discussed in this dissertation. This topic is left to future research.

¹⁶⁵Korotkova (2016) points to Boeder (2000) for more examples.

5.2 Semantics for perceptual predicates, lexical and functional

Analogously to communicative predicates discussed in the previous section, §5.1, here I propose that direct evidentials are functional representations of lexical perception verbs. Typological findings on evidentiality, such as Willett (1988); Aikhenvald (2004), show that different languages can involve different levels of grammaticalization: some encode visual and audible evidence with separate morphemes, while others have a generic direct evidential. Both of these levels of representation can be easily rendered in the system I am proposing here: the former one would include in its inventory light predicates SEE and HEAR, while the latter would involve a more generic light PERCEIVE. For ease of exposition, I am discussing the lexical semantics of the verb *see* in §5.2.1 and then apply it to light PERCEIVE in §5.2.2.

5.2.1 Decomposing perception verbs

As one of the objections against the idea that **all** embedded *that*-clauses are content clauses, in §5.1.1.4.2 I mentioned that the *that*-complements of verbs like *see* cannot be predicates of contents. If content clauses are excluded as arguments of perceptual verbs, what then do we have to have seen or perceived in order to felicitously utter a sentence like:

(247) Brandon saw *(that it started raining).

The problem is similar for the objects of saying/thinking and the objects of perceiving. The solution will also be conceptually similar — decomposing the pieces of factivity. I suggest we perceive facts, and formalize this idea within the syntax-semantics model presented throughout the dissertation, combined with a view on facts borrowed from Kratzer (2012a).

5.2.1.1 Where does factivity come from?

In the previous section, in §5.1.1, the decompositional approach to communicative attitude verbs was presented: intensional content is encoded in the complement, not in the matrix verb. We can ask a similar question with respect to perceptual attitudes: where does their factivity come from? Is it from the matrix clause only, from the embedded clause, or shared?

Karttunen (1971) advocates the shared option: “the main verb does not alone determine whether the complement is actually presupposed to be true. The mood of the main sentence and the type of the complement also have to be taken into account” (p. 56).¹⁶⁶

Following a long tradition of linguistic works on factivity, starting with seminal ideas by Kiparsky and Kiparsky (1970); Hooper and Thompson (1973); Melvold (1991), combined with Kratzer’s 2012a formalization of factivity as exemplification, I pursue here the answer that factivity is encoded in the complement, while the role of the matrix ‘factive’ verb is to select the correct type of clausal argument: a factive one.

Certain constructions with perception verbs allow a non-factive interpretation, such as (248a) with an infinitive. If factivity was determined by the matrix verb alone, sentence (248a) would be incorrectly predicted to be infelicitous with the continuation containing negation. But if Karttunen (1971) is right and the mood/finiteness of the embedded clause affects whether a factive interpretation would arise or not, then

¹⁶⁶Karttunen (1971) provides examples with more verbs and more types of complements, which are outside the empirical scope of the present dissertation. His arguments should be seriously considered for a more comprehensive account of fine-grained cases. My account only covers perceptual factives. See Karttunen (1971), Hooper and Thompson (1973), Melvold (1991) for a finer-grained classification of the properties of factive predicates, which I leave open to future research. See Moulton (2009) and Asudeh and Toivonen (2007) for non-factive complements of *see* (which are TPs, so not within the scope of this dissertation, because *cP* selects a CP. If CP is not projected, then *cP* is not projected either).

what needs to be done in order to account for both (248a) and (248b) is to allow the matrix verb to combine with two types of complements.

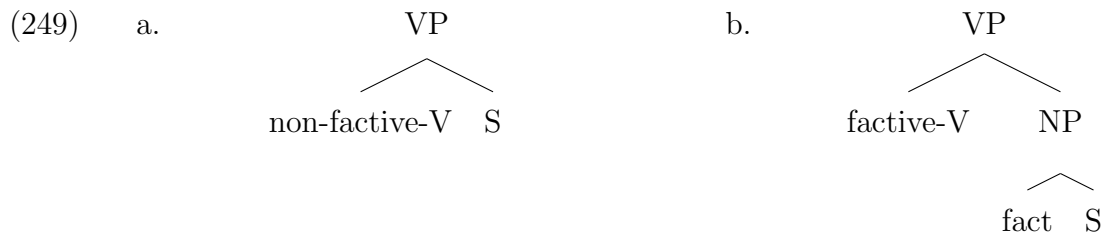
- (248) a. Martha saw Fred to be driving too fast, but he actually wasn't.
 b. Martha saw that Fred was driving too fast, #but he actually wasn't.

Moulton (2009): 129, (4)

To sum up, much like in the case of attitude verbs, where intensionality comes from the embedded clauses, with perception verbs, too, factivity comes from the embedded clause. Next, I formalize this idea in the syntax-semantics model I have laid out thus far and building on existing developments on factivity.

5.2.1.2 A syntax and semantics for perceptual verbs

In their seminal paper ‘Fact,’ Kiparsky and Kiparsky (1970) propose that factive clauses are headed by an abstract nominal element ‘fact’:



based on Kiparsky and Kiparsky (1970): p. 356

The result is that the factive verb combines with a clause with some nominal properties, which can descriptively be called a NOUNY CP — a label I borrow from Moulton (2017).¹⁶⁷

¹⁶⁷He gives this label he originally to clausal subjects, which he finds to be prevailingly marked with some definite or demonstrative morphology cross-linguistically. In this dissertation, I have said nothing about such clauses, but they clearly deserve attention in future research.

Following Kiparsky and Kiparsky’s pioneering proposal sketched above, the idea of a parallelism between clauses and nominals has been subject to considerable interest.¹⁶⁸ One important question is: what is the nature of this relation? Are ‘nouny’ CPs ‘nouny’ because they have a (lexical) nominal-like property (as in Kiparsky and Kiparsky, 1970), or can their ‘nouny’ flavor be attributed to a functional property that is usually found in nouns? Melvold (1991) proposes that factive verbs combine with definite descriptions (not propositions), which she formalizes by having factive complements host a ι operator, which carries out the function of turning propositions into (clausal) definite descriptions. That is, the functional property that gives clauses a ‘nouny’ flavor is definiteness, represented by *iota* notation:



I adopt the functional view on the CP-DP connection.¹⁶⁹

For the semantics of FACT/ ι I borrow insights from Kratzer (2002, 2006, 2012b), where a semantics for factivity is provided based on the notion of EXEMPLIFICATION, defined as follows:

¹⁶⁸See for example Roussou (1994); Varlokosta (1994); Manzini and Savoia (2003); Giusti (2006); Hiraiwa (2010); Haegeman and Ürögdi (2010); Krapova (2010); Roussou (2010, 2012); Sheehan and Hinzen (2011); Hinzen et al. (2013); Hinzen and Sheehan (2013); Baunaz (2014); Hanink (2016); Hanink and Bochnak (2016); Bochnak and Hanink (2017); Laenzlinger (2017); de Cuba (2017); Baunaz and Lander (2018). In addition, many languages in the world have nominalized clauses, see overviews in Koptjevskaja-Tamm (2002); Rathert and Alexiadou (2010); Yap et al. (2011); Paul (2014); Chamoreau and Estrada-Fernández (2016).

¹⁶⁹I have no evidence either for or against the lexical hypothesis, which would be especially relevant to languages with nominalized clauses. It may well be that both the lexical and the functional type of clausal nominalization are realized. I do not pursue this question further here.

- (251) A possible situation s (is a fact that) exemplifies a proposition p iff whenever there is a part of s where p is not true, s is a minimal situation where p is true.

Kratzer (2002): *def.* (6)

Kratzer (2006) proposes a factive complementizer *that*, which serves as an exemplification operator (for which I use the notation EX):

(252) a. $\llbracket \mathbf{that}_F \rrbracket = \lambda p. \iota e. \text{EX}(p)(e)$

or:

b. $\llbracket \mathbf{that}_F \rrbracket = \lambda p. \lambda e. \text{EX}(p)(e)$

Kratzer (2006): (14)

A FACT, therefore, is now formally defined as a (unique) event that exemplifies a proposition, in the case of (252a), and a property of events that exemplify a proposition, in the case of (252b). Thus, (252a) seems to fit the goal of representing factive nouny CPs quite well.

However, the complementizer *that* corresponds to (at least) two different lexical entries in Kratzer's decompositional program: one for CONTENT-*that*, and one (potentially two, as in (252)) for EXEMPLIFICATION-*that*. Staying consistent with the proposal on CONTENT-*that* above, I propose instead that there is just one English subordinating complementizer *that* and the exemplification operator is separate from it and hosted by *cP*. This, like Kratzer's view, does not allow the factive and the intensional operator to co-occur (for her: because they are both in C, and here: because they are both in *c*), while on the other hand allows for the English complementizer *that* to stay uniform.

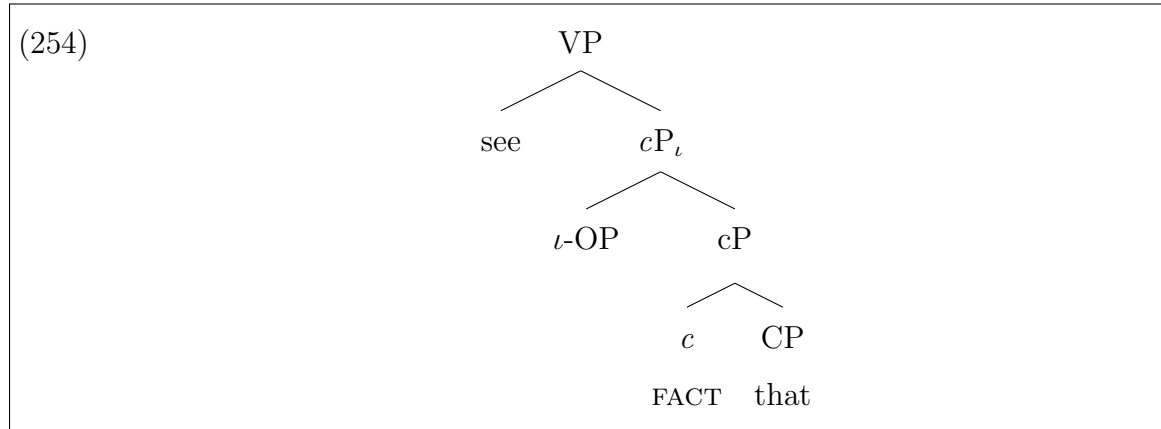
Furthermore, between the two versions of the complementizer that Kratzer (2006) provides, I suggest decomposing (252a) into (252b) and Melvold's ι operator.¹⁷⁰ Stan-

¹⁷⁰This will also give better results in direct evidential cases, §5.2.2, similarly to what was found

dardly ι has been used in the nominal domain, to turn properties of individuals into entities. Based on how Kratzer is using ι in (252a) in the realm of events, we now need to generalize the function of definiteness beyond the realm of entities and allow ι to operate over properties of events and the output to be an event. This idea is represented in (253).

(253) $\llbracket \iota\text{-OP} \rrbracket = \lambda P_{\langle \iota, t \rangle} . \iota e P(e)$

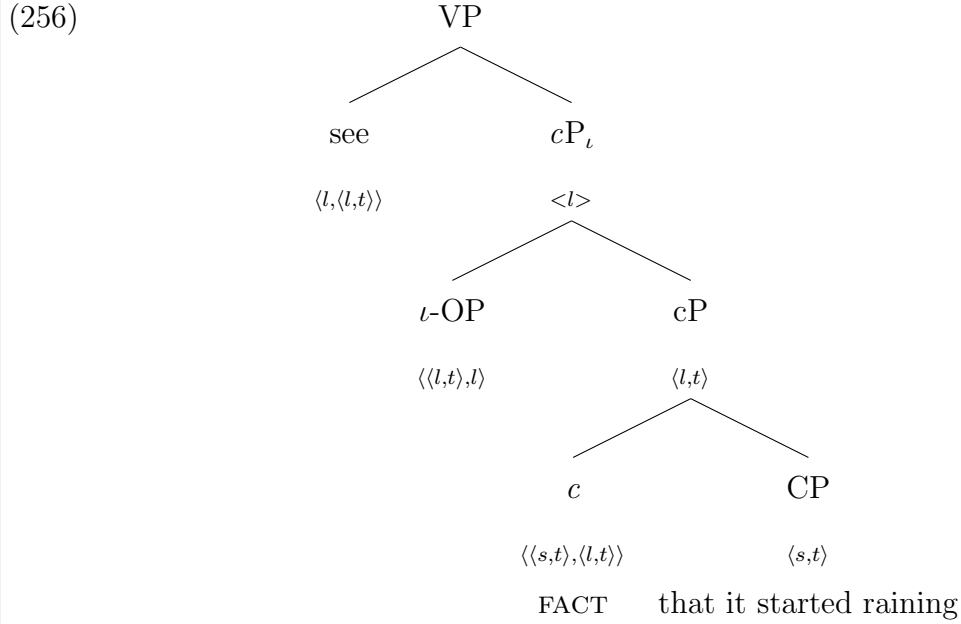
The resulting unique event can then be the argument of the matrix verb. For the verb *see* used here this would give a semantics as in (257), where *see* denotes an event of seeing another event. This gets us the following structure (the embedded *cP* is notated with a subscript ι for ease of exposition):



The same structure with types and a sample derivation is represented as below:

with respect to the decomposition of English *that* and the content function in the previous section.

(255) George saw that it started raining.



(257) $\llbracket \text{see} \rrbracket = \lambda e_3. \lambda e_2. \text{see}(e_2)(e_3)$

(258) $\llbracket \iota\text{-OP} \rrbracket = \lambda P_{\langle l, t \rangle}. \iota e P(e)$

(259) $\llbracket c \rrbracket = (252b) = \lambda p. \lambda e. \text{EX}(p)(e)$

(260) $\llbracket \text{CP} \rrbracket = \lambda w. \text{started raining}(w)$

(261) $\llbracket cP \rrbracket = \llbracket c \rrbracket(\llbracket \text{CP} \rrbracket) = \lambda e. \text{EX}(\text{started raining}(w))(e)$

(262) $\llbracket cP_l \rrbracket = \llbracket \iota\text{-OP} \rrbracket(\llbracket cP \rrbracket) = \iota e [\text{EX}(\text{started raining}(w))(e)]$

(263) $\llbracket \text{VP} \rrbracket = \llbracket \text{see} \rrbracket(\llbracket cP_l \rrbracket) = \lambda e_2. \text{see}(e_2)(\iota e [\text{EX}(\text{started raining}(w))])$

After adding the matrix external argument, etc., we will have the truth conditions that the sentence would be true iff there exists an event of seeing the unique event that exemplifies the proposition that it started raining, and the seeing was experienced by the matrix subject.

This is the case of perception verb sentences that are not evidentially marked.

Next we see how this analysis can be extended to direct evidentials, similarly to how the semantics of lexical communicative predicates (§5.1.1) was extended to account for light SAY (§5.1.2).

5.2.2 Light perceptual predicates

I propose the perceptual evidential *c*-head is the FACT *c*-complementizer, enriched with an evidential presupposition that the speaker had some form of direct evidence, which, as discussed in Chapter §2, can be specified to a different level of detail in different languages: in languages with dedicated visual *vs* auditory evidentials, for example, such as Tuyuca, we would expect a SEE and a HEAR evidential, while in languages with one generic evidential marker, such as Bulgarian, it would be a more generic predicate as well, such as PERCEIVE.

In addition to the contribution of FACT that was motivated above for cases with no evidential, the perceptual evidential, defined in (264), specifies that there exists a perceiving event (e_2) of the event (e_1) that exemplifies the proposition (p) denoted by the embedded clause before the evidential is interpreted. This ensures that the evidential contribution is not just one of factivity (there exist factive linguistic objects that are not evidential/perceptual), but particularly a perceived event. The experiencer of the perceiving event (x) is the speaker, as discussed in §3.3.1.3. This is represented here as a first person pronoun in the specifier of *cP*.¹⁷¹

¹⁷¹In the case of reportatives, the pronoun was a third person, which does not correspond to an index coordinate. In the case of the speaker, however, the same overall effect as in (264) could be achieved if the speaker was directly summoned from the index instead of regarded as a pronominal argument participating in the derivation. The examples discussed in the main text are not sufficient to inform this. It is represented as a pronoun here for theoretical simplicity, but it could also be that direct evidentials do not project an argument, or that they do in some languages and not in others. For example, in some languages, direct evidentials have number agreement: they can overtly represent either the experience of the speaker ('I' pronoun) or that of the speaker plus other people ('we' pronoun) (Aikhenvald, 2004). A pronominal *vs* indexical representation might

(264) **Direct perceptual evidential:**

$$\llbracket \text{DIR-PERCEIVE} \rrbracket = \lambda p. \lambda x. \lambda e_1 : \exists e_2 \text{PERCEIVING}(e_2)(e_1) \wedge \\ \text{EXPERIENCER}(e_2)(x)]. \text{EXEMPLIFY}(p)(e_1)$$

This account allows what was perceived as a fact to participate in the rest of the derivation of the complex sentence. A sample derivation follows.

affect interpretations of evidentials in other environments, for example in questions. In a number of evidential languages, evidential markers are reported to obligatorily shift to the addressee in questions (Murray, 2010b; Korotkova, 2016; Bhadra, 2017). An indexical account of the direct may better suit such languages. In Bulgarian, however, the direct evidential does not necessarily shift and is natural in cases where it preserves its speaker-orientation, for example:

- (i) Context: the speaker failed history test in 2018. The speaker asks a close friend who lives in another country (i.e. cannot have direct experience) but who the speaker himself kept in touch with about his academic endeavours:

Koga me **skusaha** po istoria?
 when me failed.3PL.DIR on history
 ‘When did I fail history?’

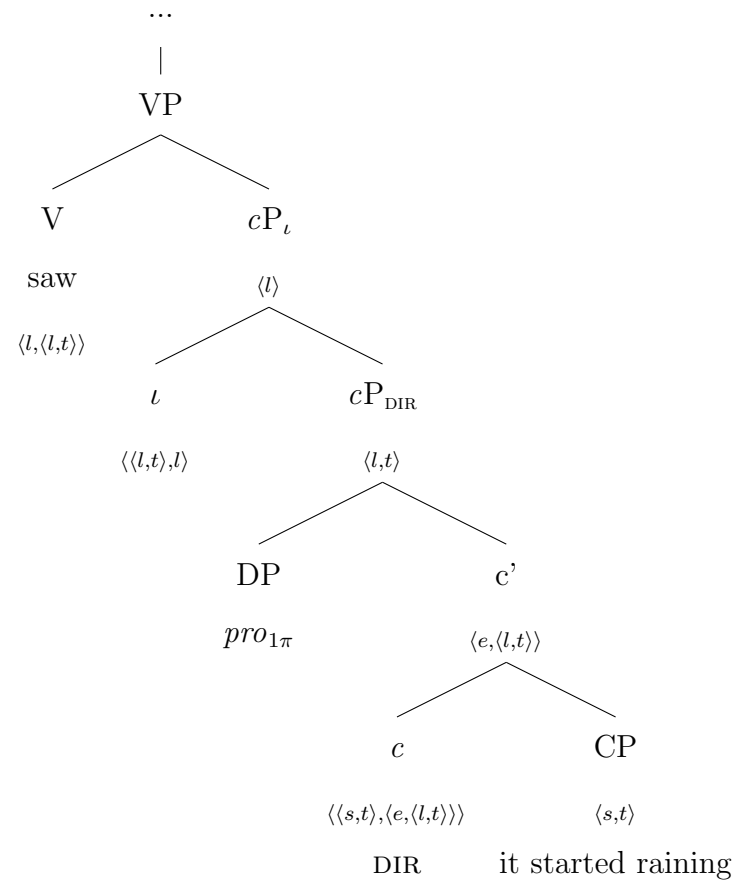
1) $\approx$ I experienced it, but I forgot that detail.

2) $\not\approx$ You experienced it. [Bulgarian]

These kinds of questions have been consistently reported in the literature to be infelicitous if the addressee does not have direct evidence (see especially Murray, 2010b), but are acceptable in Bulgarian. While much more needs to be done on evidentials in questions, I offer a preliminary suggestion that such variation may be due to whether the experiencer is syntactically represented or not.

Embedded direct under perceptual predicate:

- (265) Zlati vidja che **zavalya**.
 Zlati saw that start.rain.DIR
 ‘Zlati saw that it started raining (which *I perceived*).’

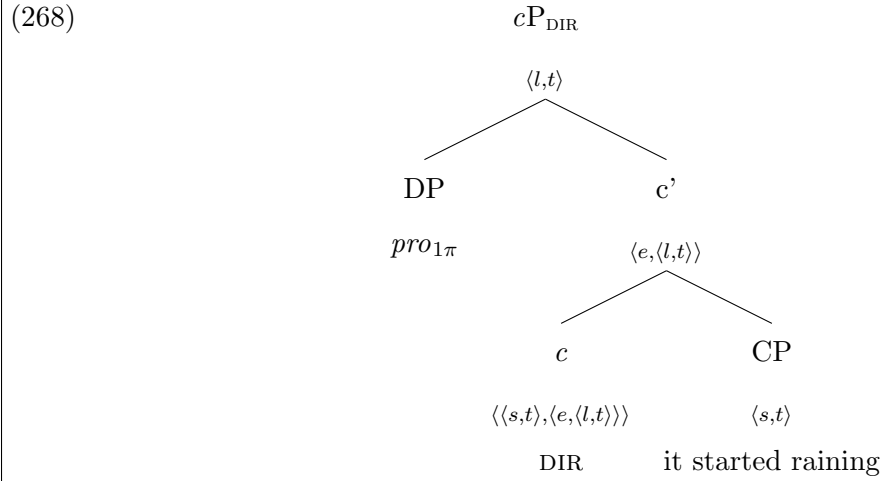


(266)	Derivation of (265):
a.	$\llbracket \mathbf{CP} \rrbracket = \lambda w. \text{it started raining in } w$
b.	$\llbracket c \rrbracket = \llbracket \text{DIR} \rrbracket = (266) =$ $\lambda p. \lambda x. \lambda e_1 : \exists e_2 [\text{PERCEIVING}(e_2)(e_1) \wedge \text{EXPER}(e_2)(x)]. \text{EX}(p)(e_1)$
c.	$\llbracket \mathbf{DP} \rrbracket^c = \text{SPEAKER}(c)$
d.	$\llbracket \iota \rrbracket = (253) = \lambda P_{\langle l, t \rangle}. \iota e_5 P(e_5)$
e.	$\llbracket \text{see} \rrbracket = \lambda e_3. \lambda e_4. \text{seeing}(e_4)(e_3)$
f.	$\llbracket c' \rrbracket = \llbracket c \rrbracket(\llbracket \mathbf{CP} \rrbracket) = \lambda x. \lambda e_1 : \exists e_2 [\text{PERCEIVING}(e_2)(e_1) \wedge \text{EXPER}(e_2)(x)].$ $\text{EX}(\text{raining}(w))(e_1)$
g.	$\llbracket c\mathbf{P}_{\text{DIR}} \rrbracket = \llbracket c' \rrbracket(\llbracket \mathbf{DP} \rrbracket) =$ $\lambda e_1 : \exists e_2 [\text{PERCEIVING}(e_2)(e_1) \wedge \text{EXPER}(e_2)(\text{SPEAKER}(c))].$ $\text{EX}(\text{raining}(w))(e_1)$
h.	$\llbracket c\mathbf{P}_\iota \rrbracket = \llbracket \iota \rrbracket(\llbracket c\mathbf{P} \rrbracket) = \iota e_5 [\text{EX}(\text{started raining}(w))(e_5)]$ defined only if: $\exists e_2 [\text{PERCEIVING}(e_2)(e_5) \wedge \text{EXPER}(e_2)(\text{SPEAKER}(c))]$
i.	$\llbracket \mathbf{VP} \rrbracket = \llbracket \text{see} \rrbracket(\llbracket c\mathbf{P}_\iota \rrbracket) =$ $\lambda e_4 : \exists e_2 [\text{PERCEIVING}(e_2)(e_5) \wedge \text{EXPERIENCER}(e_2)(\text{SPEAKER}(c))].$ $[\text{seeing}(e_4)(\iota e_5 [\text{EXEMPLIFY}(\text{started raining}(w))(e_5))]$

After adding the external argument and existentially closing the matrix event argument, we would get the meaning that there is an event of perceiving by Zlati of the unique event that exemplifies the proposition that it started raining, and there is an event of perceiving by the speaker of the same event.

In a matrix clause, ι would not apply, but standard existential closure over the event variable:

- (267) Zavalja.
start.rain.DIR
'It started raining (*I perceived*).'



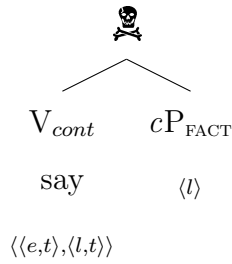
- (269) a. $\llbracket \mathbf{CP} \rrbracket = \lambda w. \text{it started raining in } w$
b. $\llbracket c \rrbracket = \llbracket \text{DIR} \rrbracket = (266) =$
 $\lambda p. \lambda x. \lambda e_1 : \exists e_2 [\text{PERCEIVING}(e_2)(e_1) \wedge \text{EXPER}(e_2)(x)]. \text{EX}(p)(e_1)$
c. $\llbracket pro_{1\pi} \rrbracket^{g,c} = \text{SPEAKER}(c)$
d. $\llbracket cP_{\text{DIR}} \rrbracket = \llbracket c' \rrbracket(\llbracket \mathbf{DP} \rrbracket) =$
 $\lambda e_1 : \exists e_2 [\text{PERCEIVING}(e_2)(e_1) \wedge \text{EXPER}(e_2)(\text{SPEAKER}(c))].$
 $\text{EX}(\text{started raining}(w))(e_1)$

After existential closure of the event variable, we would get the following truth-conditions: the sentence in (267) is true iff there is an event such that it exemplifies the proposition that it started raining, and defined only if the speaker perceived that event.

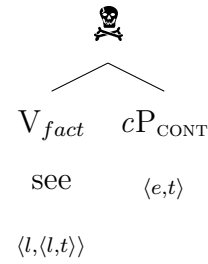
5.2.3 Remaining puzzle: emotive factives

While preserving the spirit of the compositional approach, the proposal advanced throughout this chapter prevents a four way mix-and-matching of factive and content complements with factive and content verbs, but only allows the felicitous cases. The impossible cases are ruled out as a type mismatch, schematized in the following crashing derivations:

(270) *say + cP_{FACT}



(271) *see + cP_{CONT}



This accounts for the matrix predicate sensitivity of both evidentials and logophors that was presented in Chapter §3: reportative evidentials and logophors are allowed in clausal complements to communicative matrix verbs but not under perceptual verbs, while perceptual evidentials are not allowed under communicative verbs.

However, while this is exactly what is needed for communicative and direct perception predicates, there is a class of predicates that allow both direct and direct evidentials: emotive factives, such as *regret*, *resent*, *be happy*, *be angry* etc. This is illustrated in (272), and the data patterns observed in this chapter are summarized in Table 5.1.

(272) Direct and reportative evidential under *be.angry*

Reni e **yadosana**, che {✓**zavalja**/✓**zavaljalo**}.
 Reni is angry that start.rain.DIR/REP
 ‘Reni is angry that it started raining.’

The analysis provided thus far regards predicates as lexically specified for taking

	direct	reportative
<i>say</i>	no	yes
<i>think</i>	no	yes
<i>see</i>	yes	no
<i>be.angry</i>	yes	yes

Table 5.1: What predicates take what evidentials in their complements in Bulgarian

complements of either content or fact type, not both. One way to accommodate cases like (272) would be to assume that they are lexically ambiguous between a content-taking predicate (*be.angry*₁) and a fact-taking predicate (*be.angry*₂). But it cannot be as simple as that, and not only because this hypothesis is theoretically unappealing. Here are a few more reasons why an alternative approach would be preferable, while leaving a full satisfactory account of these cases to future research.

The class of emotive factive predicate have special syntactic and semantic properties not limited to the topic of evidentiality; they have been of great interest since the seminal work of Kiparsky and Kiparsky (1970), Karttunen (1971), and Hooper and Thompson (1973). The special behavior of emotives is cross-linguistically attested, irrespectively of evidentiality, by Roussou (2010); Krapova (2010); Simeonova (2018a,b); Baunaz (2016); Baunaz and Lander (2018); Özyıldız (2017). The discussion here adds to that literature a first glimpse of the interaction between factivity and evidentiality. The observation about evidentials noted here may eventually fit in with a property of these predicates once they are better understood.

Another reason to avoid postulating lexical ambiguity is that the two readings considered in (272) are not equivalent: the direct evidential does not require special context, while the reportative requires pragmatic licensing: a context in which it is established that the speaker either has no opinion about the veracity of the embedded clause, or is of the opposite opinion. Under such pragmatic licensing, emotive factive predicates can coerce into communicative ones in English as well, independently of

evidentiality, as shown in example (273), where it is clear to the interlocutors that the speaker does not believe that the embedded clause under the emotive predicate is true and yet the sentence is felicitous.

- (273) Context: Stephan set up a prank on Kristin, hacked her boss' email, and sent her an email on the boss' behalf that she can have the Friday off. Then Stephan can utter felicitously, while bragging to his buddies about his successful prank:

Kristin was so happy that she got the Friday off!

The fact that communicative coercion is pragmatically — not semantically — determined means that the observation in example (272) is not due to something idiosyncratic about emotive predicates in Bulgarian specifically, or evidentiality, but a consequence of a more general property of emotives that is not yet well understood.

Finally, examples like (272) and (273) resemble the recent discussion of ‘defeating factivity’ by Özyıldız (2017), who reports that two types of complements under the verb ‘know’ in Turkish — a nominalized one and a *say*-complementizer (*diye*) headed one — lead to a factive and a non-factive reading of *know*, respectively.

- (274) a. Tunç [Hillary'nin kazan-**dığın-ı**] **biliyor**
 Tunç Hillary win-NMZ-ACC know
 ‘Tunç knows that Hillary won.’
 → Hillary won.’
- b. Tunç [Hillary kazan-di **diye**] **biliyor**.
 Tunç Hillary win-PST DIYE knows
 ‘Tunç believes [lit: knows] that Hillary won.’
 ↗ Hillary won.’ [Turkish] Özyıldız (2017): (1)

The similarity with the observations with evidentials in (272) (and the importance of SAY-complementizers) is clear. What is much less clear is why the phenomenon is realized with cognitive factives in Turkish and emotive factives in Bulgarian.

5.3 Conclusion of the chapter

I argued in the previous chapter that reportative and direct evidential markers are syntactically represented in a projection *cP*. Here I presented their semantic composition, combining the additional projection with the insights of decompositional semantics, which already requires finer-grained structure than what traditional syntax and semantics assume. The *cP* hypothesis provides this structure and casts the hypothesis put forth in Chapter §2, that such evidentials are functional propositional attitudes, into a formal representation.

One relation between lexical and functional attitudes that this chapter laid out is how light SAY can be represented by extending a semantics of lexical *say*, whose particular form was independently motivated (and updated and extended) in §5.1.1 based on the existing decompositional approach to attitude verbs.

The differences between lexical and functional attitudes were also explored. For example, the meaning of light SAY is necessarily richer than that of either the lexical verb or the bare intensional operator and in fact combines them (and similarly for light PERCEIVE/SEE). This accounts for one of the hallmarks of the reportative evidential: it contributes a report meaning in both matrix and embedded cases.

While preserving the spirit of the decompositional approach, the proposal advanced here prevents a four way mix-and-matching of factive and content complements with factive and content verbs, but only allows the felicitous cases. The impossible cases are ruled out as a type mismatch. This accounts for the matrix predicate sensitivity of both evidentials and logophors that was presented in Chapter §3: reportative evidentials and logophors are allowed in clausal complements to communicative matrix verbs but not under perceptual verbs, while perceptual evidentials are not allowed under communicative verbs.

Finally, the analysis presented here allows light attitudes to capture different typologically attested checkpoints on a cross-linguistic continuum in the empirical realization of the division of labor in the morpho-semantic representation of proposi-

tional attitudes. In this, the account of evidentiality proposed here relates to Bogal-Allbritten's 2016 findings on Navajo: a number of meaningful pieces of the composition of attitudes are found in the embedded clause. The syntactic structure proposed in the previous chapter fits the decompositional view well and makes it an appealing frame for modelling the meaning of attitudes, while allowing space for capturing various cross-linguistic representations along the typological continuum of how attitudes — both lexical and functional — are realized in various languages.

Chapter 6

Conclusion and final remarks

The main goal of this dissertation was to introduce functional propositional attitudes and to provide a formal framework for their analysis, using as case studies two attitudes: functional SAY and functional PERCEIVE. In this chapter, I briefly summarize the main findings with respect to them, and then zoom out of these two particular case studies in order to look at the bigger picture and questions that the proposal informs.

6.1 Summary of findings

In Chapter §2, the prevalent theoretical accounts of evidentiality were presented and it was established that both of them aim to account for two major properties of evidentiality: (i) its not-at-issue status, including that the evidential contribution cannot scope under sentential negation or be targeted in a conversation, and (ii) the fact that when a reportative marker in particular is used, the sentence is not asserted by the speaker.

The latter property has puzzled researchers so much that [AnderBois \(2014\)](#) calls it “the exceptional status of reportative evidentials”. It has been the driving force behind the modal approach, which uses an epistemic modal to represent the lack of as-

sertion when a sentence is marked with a reportative. It has been also the motivation of Faller (2002) for introducing a novel kind speech act PRESENT to avoid assertion, as well as the similar ‘taking note’ conversational update by Murray (2010a).

As for the not-at-issue character of evidentials, while modal proposals attribute it to representing them as presuppositions, illocutionary approaches use it to motivate a pragmatic analysis of evidentiality. Faller (2002) represents it as the sincerity conditions of speech acts, while Murray (2010a) introduces a relation of non-negotiable update to the Common Ground and generic evidential speech act called NOT-AT-ISSUE ASSERTION to capture it.

In my proposal, these two properties are captured as follows. I have treated evidentials as contributing presuppositions, providing the arguments in Chapter §2. One immediate appeal of taking this route is that it is theoretically more elegant and simple, resting on a concept that is already well-established in the theoretical toolbox of the formal theories of meaning, rather than introducing new, evidential-specific speech acts. Another benefit of a presuppositional approach, in addition to needing fewer assumptions, is that it makes better empirical predictions. I provide novel data and arguments that falsify some of the predictions made by approaches to the evidential contribution as always conversationally new and non-negotiable and show that the predictions of a presuppositional approach are confirmed.

With regards to the non-assertiveness of reportatives, while previous works consider it an ‘exceptional’ property of reportatives in need of a special explanation, it now follows directly from their nature as communicative propositional attitudes. Informally, a reportative evidential under my proposal simply means that someone (else) said the scope proposition. Therefore its non-assertiveness is predicted to arise for the same reason for which a speaker who utters a sentence like ‘Brandon says it raining.’ does not assert that it is in fact raining in the actual world. This is represented under my account in Chapter §5 formally: both a (lexical) communicative predicate and a reportative evidential (or a *say*-complementizer) appeal to an

individual carrying intensional content as opposed to an event in the actual world. Given that this property of communicative predicates seems stable cross-linguistically (i.e., we do not find factive ‘say’), the notorious non-assertiveness of reportatives in language after language is now built into the analysis, not problematic for it.

In addition to these two known properties of evidentials, in Chapter §3, I brought to light novel cross-linguistically attested properties of evidentials that further show the existence of important differences between evidentials even within the same language, in addition to the non-assertive property pointed out above: (i) evidential thematic relations; (ii) predicate matching; (iii) perspectival restrictions. These properties were derived from a relation that Chapter §3 established between reportative evidentials and logophoricity (and the lack of such a relation with direct evidentials): that they are based on the same functional attitude: archetypal SAY. I also argued that logophoricity does not share many of the major properties of long-distance reflexives, such as only sloppy readings under ellipsis, obligatory *de se* interpretation.

The new properties were explained formally at the syntax-semantics interface in Chapters §4 and §5. Functional attitudes are captured as complementizers residing in a projection *cP*, which selects CP. *cP* has a pronominal specifier that receives a thematic role from the head, which explains why reportative evidentials and logophors can only represent attitude holders, while direct evidentials represent experiencers. The perspectival restriction was encoded as a syntactic person specification on the pronominal specifier. The predicate matching property consists in that reportative evidentials and logophors are allowed under intensional verbs and not perception verbs, while it is the opposite for direct evidentials. This was captured in the semantic proposal in Chapter §5 by ruling out the ungrammatical cases compositionally. The proposal also correctly predicts the elusive meaning of reportative evidentials in clauses embedded under non-communicative intensional verbs: they still have a communicative predicate contribution, as opposed to not being interpreted at all or repeating the matrix verb, as has been suggested by previous works.

6.2 The bigger picture

I argued that the phenomena of evidentiality and logophoricity (more broadly, attitudinal complementizers) are instances of functional attitudes. This account offers a novel answer to a question that has spurred great debates in the literature for decades: what is the nature of evidentiality? Is it a subpart of epistemic modality, or a category in its own right? My answer is: neither. I argued that, while evidentiality as a whole is not part of epistemic modality, it is not an idiosyncratic category either. I proposed instead that evidentiality, together with other phenomena, such as logophoricity, is a member of a larger category: the family of functional propositional attitude phenomena.

A potential exception of this view are inferential/conjectural evidentials, which seem to have an interpretation indistinguishable from that of epistemic modals, and syntactic and semantic properties that are closer to those of modals and consistently different from those of other evidentials in the same languages, as discussed in Chapter §2. While inferentials could in principle be regarded under my proposal as functional attitudes *INFER* or *CONJECTURE* for the sake of unification, the predictions of which approach are closer to fact remains to be tested in future research.

In this dissertation, there was very little discussion of context and pragmatics. A more comprehensive theory of evidentiality would need a serious consideration of the role context can play in the interpretation of evidentials, and especially reportatives. For example, see [AnderBois \(2014\)](#) for a cross-linguistic survey of a pragmatic effect observed with reportatives in contexts of disagreement; see [Şener \(2011\)](#) on non-out-of-the-blue restrictions, touched upon briefly in §3.3.2.1).

But context needs to be considered in another way, too. Each of the three approaches discussed here — the modal, the illocutionary, and the functional attitude one — makes choices on what part of the interpretation of evidentials to hard-wire into their semantics and what to leave to context. As an example, consider the various analyses of the reportative presented in Chapter §2. [Murray \(2010a\)](#) uses as a repre-

sentation of reportatives ‘I heard p ’ and leaves to context that someone said (or more broadly, in some way communicated) p . In my proposal here, it is the opposite: I have analyzed the reportative as meaning ‘ pro said that p ’ and leave that the speaker heard it to pragmatics (for the speaker to truthfully claim what the content of someone’s report is, the speaker must have in some way ‘heard’ this information). In Faller’s 2002 analysis, the reportative encodes a speech act that the speaker presents what someone else asserted; the end result of my proposal is that an utterance containing a reportative marker is assertion by the speaker that the content of what someone else said is the scope proposition.¹⁷² Izvorski (1997) (reviewed in §2.2.1.1) proposes that modal force is encoded in the semantics of evidentials, but is variable. According to Izvorski (1997), the variable force of the modal is dependent on the reliability of the source of evidence. So, if a rumor is coming from an unreliable source, the modal would have a weak force. However, the source of the report itself is not encoded in the semantics of the evidential in Izvorski’s proposal, but left to context. The importance of the source of the report, on the other hand, is central to Faller’s analysis (the current speaker’s presentation amounts to a previous speaker’s assertion).¹⁷³ In my approach, I have chosen essentially the opposite path of representation of Izvorski (1997): the source of the report is encoded in the semantics of the evidential, while its reliability is left to context, not encoded as modal force in the semantics (again, much like it is in the interpretation of lexical attitudes). Thus, the three representations of a report have similar overall interpretational outcomes, but with differences in the formalization, which lead to different predictions. In Chapter §2, I showed some of the predictions of the illocutionary and modal approaches that are not borne out, e.g. the interpretation of evidentials in embedded clauses. And in Chapter §3, I showed a number of predictions of the functional attitude view that are borne out, e.g. the

¹⁷²My proposal avoids issues for the ‘assert’-based account of the reportative with its meaning in questions.

¹⁷³Murray (2010a) also acknowledges the importance of the source and even provides more empirical evidence for it than Faller (2002) does, but admits that her proposal does not take it into account.

interaction between functional attitudes and lexical ones.

The analysis presented in this dissertation did not make use of some controversial primitives in evidentiality and logophoricity. One is the notion of ORIGO introduced by Garrett (2001) in evidentiality, used to refer to the person who has the evidence. This concept has since been used both descriptively and theoretically, see Korotkova (2016) for a recent use and Déchaine et al. (2017) for an extension of Origo into pragmatic notions such as ‘origo ground’. The concept of Origo is redundant under the view defended here that evidentials are functional attitudes. In the case of direct evidentials, the speaker is the Origo by virtue of being the experiencer of the perceptual functional attitude that represents direct. In reportative evidentials, the speaker is still Origo by virtue of sincerely making an utterance about the content of what was said, i.e. the speaker cannot make such a conversational move without being the ‘origo’ for independent reasons that do not necessitate the introduction of such a concept formally. With respect to logophoricity, primitives introduced to handle it include abstract [LOG] syntactic features or the ill-defined concept of a logophoric (covert) pronoun. I have reduced the notion of logophoricity to a third person attitude holder of a functional communicative predicate.

Evidentiality is widely spread among the world’s languages (Aikhenvald, 2004). One appealing aspect of a generalized reading of the modal theory of evidentiality is that it can explain why this is so: if evidentiality is part of epistemic modality, then it is natural to find evidential kinds of epistemic modals as often as modals are found. The independent category view (illocutionary or not) would not have an explanation (but does not need to have one, either). The functional attitude theory proposed here also has an explanation: functional attitudes are so popular in natural languages because regular attitudes are. The light attitude hypothesis maintains a tangible difference between lexical and functional attitudes, which could also help explain why we do not find evidentials in every language that has lexical attitudes. In addition, the functional attitude theory explains why logophoric languages do not

have evidentials: they have a different morphosyntactic means of expressing the same underlying phenomenon.

Finally, cross-linguistically, evidentials, and especially reportative evidentials, can arise via three diachronic paths of development: grammaticalizing verbs of saying, desubordination of a dependent mood used in clauses embedded under communicative verbs, and reinterpretation of perfect (Aikhenvald, 2004). The theoretical account proposed in Chapter §5 can be regarded as a formalization and explanation of the first two paths: if evidentials are functional attitudes that combine elements from both the matrix verb and the embedded clause in one functional head, then it makes sense that either of them can grammaticalize into an evidential. As for the third stream, the perfect, at least in Bulgarian, it may be intimately related to the other two, as Iliev (2017) argues that the present day reportative forms are descendent of the Old Church Slavonic subjunctive mood. Thus, today's synchronic reportative can be regarded as the end product of a diachronic process of desubordination. The situation is similar with the Estonian perfect of evidentiality, Aikhenvald (2004). While it is not at this point clear whether all 'perfect'-based evidentials can have such an explanation, the cases of Bulgarian and Estonian present a direction for such exploration.

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