

English evidential *-ly* adverbs
from a functional perspective

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Faculteit der Geesteswetenschappen

For the new generation:
Nilo and Lena

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Author contributions

1 Introduction

Lois Kemp is the sole author of this chapter, which has not been submitted for publication elsewhere. The chapter was revised following valuable feedback provided by Kees Hengeveld, and helpful comments made by Olga Fischer and Hella Olbertz.

2 English evidential adverbs: Criteria and correlates

This chapter is a slightly adapted version of an article that has been accepted by *Functions of Language*. Lois Kemp is the sole author. An initial version of part of the material was discussed with Kees Hengeveld and presented at the International Pragmatics Conference in Hong Kong in 2019. The material and tests were expanded into an article after insightful and thorough discussion with Kees Hengeveld. The article was edited following useful comments given by Olga Fischer and Hella Olbertz.

3 English evidential –ly adverbs in main clauses: A functional approach

This chapter is a slightly adapted version of Kemp, Lois. 2018. English evidential –ly adverbs in main clauses: A functional approach. *Open Linguistics* 4, 743–761 (<https://doi.org/10.1515/opli-2018-0036>). It was published under the Creative Commons License 4.0.

Lois Kemp is the sole author of the chapter and sourced the material used from the NOW corpus. The content of the analysis was discussed at length with Kees Hengeveld in the light of Functional Discourse Grammar. The initial material collection from the internet was discussed with participants of the 6th International Workshop on Functional Discourse Grammar in Amsterdam in 2017, who offered valuable feedback. An analysis of the material was presented and received useful feedback at the 50th meeting of Societas Linguistica Europaea (SLE) in Zurich in 2017. After the collection of data from the NOW corpus in 2018, Padraic Monaghan gave sound advice on producing a limited sample of data. The article was written after invaluable discussions with Kees Hengeveld. Editing followed up on highly relevant feedback on the presentation of examples from Hella Olbertz and comments

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4 When English complement clauses meet evidential adverbs

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Lois Kemp is the sole author of this chapter. The material was discussed thoroughly with Kees Hengeveld in the light of predictions of Functional Discourse Grammar. The material was initially presented at the 5th International Conference on Functional Discourse Grammar in Salvador da Bahía, Brazil in 2018, and a revised version at the International Conference on Evidentiality and Modality (ICEM) in Madrid in 2018. Participants at these presentations provided useful comments and feedback. A thoroughly revised version of the paper was presented in a meeting of the Research Group Lexical Restrictions of the Amsterdam Center of Language and Communication, and received useful comments. Olga Fischer and Hella Olbertz provided comments that were gratefully used. The article was further revised following valuable comments by Kees Hengeveld and 3 anonymous reviewers provided by the journal.

5 English evidential *-ly* adverbs in the noun phrase from a functional perspective

This chapter is a slightly adapted version of: Kemp, Lois & Hengeveld, Kees. 2022. English evidential *-ly* adverbs in the noun phrase from a functional perspective. *Open Linguistics* 8, 573–592 (<https://doi.org/10.1515/opli-2022-0208>). It was published under the Creative Commons License 4.0.

An initial exploration of the topic of evidential adverbs in noun phrases was discussed and commented on by participants of the 8th International Workshop on Functional Discourse Grammar on ‘Modification in Functional Discourse Grammar’, which took place online in 2020. The chapter itself is the outcome of extensive discussion between Kees Hengeveld and Lois Kemp, who shared the task of writing the paper. Lois Kemp focused on the analysis of the data, and Kees Hengeveld on their representation in Functional Discourse

Grammar. Revisions to the paper followed up on comments by Olga Fischer and Hella Olbertz. Rowena Kemp provided spoken language data.

6 Conclusions

This chapter has not been submitted for publication elsewhere. Lois Kemp is the sole author. The chapter was discussed with Kees Hengeveld and revised following comments by Olga Fischer and Hella Olbertz.

1 Introduction

1.1 Background

A language needs a way of expressing where information has come from and can do so by means of evidential expressions. In studies of various languages, it has been shown that evidentiality or information source can be expressed by grammatical or lexical means. In some languages with grammatical evidentiality, it is obligatory to use these expressions. Evidential items are viewed here as elements that signal a knowledge base from where information is drawn. Among other expressions, English has *-ly* adverbs that can express the notion of evidentiality, which are lexical and optional expressions of evidentiality¹. Eleven of these *-ly* adverbs are studied in this thesis.

Functional Discourse Grammar (FDG) is used as a descriptive framework to discover more about the distribution of evidential adverbs in English. FDG is a typologically based theory of language that aims to accommodate both the grammatical and lexical expression of evidentiality. The functional basis of this theory supports the notion that the various ways of expressing evidentiality can be analyzed in a similar way using underlying pragmatic and semantic notions. Before moving to the research aims of this thesis, I give a brief overview of the study of adverbs and evidentiality.

1.2 Adverbs

Adverbs have been described as a grammatical category that is notoriously difficult to analyse. Buysschaert (2010) simplifies previous semantic classifications of adverbs that had many categories and subcategories, such as time and frequency, by establishing two broad categories: S-modifiers and V-modifiers. The former type modifies what is said in a clause, while the latter, such as manner adverbs, modifies what is described by the verb. A functional approach is found in Hengeveld (2023) in his description of the distribution of adverbs. In short, ‘An adverb is a lexical word that may be used as a modifier of a non-nominal head.’ (Hengeveld 2023: 2). In other words, an adverb cannot modify nouns, but can modify, among others, adjectives and clauses. This thesis studies occurrences of evidential adverbs in main clauses, complement clauses and noun phrases.

¹ Some linguists reject the notion of lexical evidentiality. As Aikhenvald (2020: 19) puts it, ‘The term evidential’ primarily relates to information source as a closed grammatical system whose use is obligatory.’

1.3 Evidentials

Works describing non-Indo-European languages were the first to recognize the grammatical category of evidentiality, which can be expressed, for example, by suffixes². Aikhenvald (2004) gives an analysis of various systems of evidentiality involving categorization according to evidential meaning and the groupings of systems across many languages. She states, ‘To be considered as an evidential a morpheme has to have “source of information” as its core meaning’ (Aikhenvald 2004: 3). Hengeveld and Dall’Aglio Hattner (2015) categorise grammatical evidentials found in a sample of 64 Brazilian languages in terms of Functional Discourse Grammar. The FDG categorization is similar to one of the evidential systems described in Aikhenvald (2006:320).³ Mélac (2023) compares the use of grammatical evidentials in Tibetan with the lexical evidentials used in English and concludes that grammatical evidentials in Tibetan have a ‘broader semantic spectrum’ than lexical evidentials in English, which are more specific in nature (Mélac 2023: 148). Although lexical evidentiality is not a major property of English and the use of evidential expressions is not obligatory, English does have various items, such as verbs, adjectives and adverbs that express evidentiality⁴. This study adopts the FDG categorisation of evidentials and applies it to English evidential *-ly* adverbs.

To briefly return to descriptions of grammatical evidentiality, Boas (1911) is considered the first to have noticed ‘suffixes denoting the source of information’ while studying the native American language of Kwakiutl (Boas 1911: 43, 443, 496). Later he discusses the aspect of ‘source of information – whether seen, heard or inferred’ (Boas 1938: 133). Jacobsen (1986: 3-7), who presents a historical background of the study of evidentiality, notes that Sapir, a student of Boas’s and a number of Sapir’s students carried on Boas’s work on evidentiality. Jacobsen (1986: 4) also reports that Lee (1938), who studied Wintu, a native American language, considered that grammatical categories

² Example of the reportative evidential suffix in Mamaindé (Hengeveld & Dall’Aglio Hattner (2015):

(i) *wáʔnî̃n-soʔka janân-tu sun-satau-le-ø-hî̃n-wa*
 shaman-NCL.HUM jaguar-FNS kill-REP-IMM.PST-SBJ.3-PST.NONVIS-DECL
 ‘The shaman killed a jaguar (yesterday).’ (and I know this because someone told me)
 (Eberhard 2009: 478 in Hengeveld and Hattner (2015:493)

³ There is similarity between the FDG categorisation and the four-way distinction described for Aikhenvald’s C2 languages (2006:320), which includes the reportative, inference based on general knowledge, inference based on ‘direct physical evidence’ and the direct evidentiality.

⁴ Some English evidential expressions such as inferential *must* and *I hear* in the reportative sense are examples of grammatical evidentiality. (Mélac 2022: 10,20)

demonstrate ‘the speaker’s cognitive orientation’. Lee (1938: 90) describes evidential suffixes as expressing ‘the manner in which the speaker himself has come by his information’. Lee (1938) identified five evidential suffixes, including that of auditory perception, none of which express attitude or modal force (Lee 1938: 91-2 in Jacobsen 1986: 4) so they do not express a relation to commitment or belief. Willett (1988: 56) identifies three major categories: attested, reported, and inferring, the latter being subdivided into results and reasoning. Hengeveld and Fischer (2018) in their work on A’ingae, a South American isolate, identify five subcategories of evidentiality: quotative, reportative, inference, deduction and event perception.

In comparing evidentiality in various languages several linguists discuss the relation of evidentiality with epistemic modality. For example, while Jacobsen (1986: 3) views evidentiality as a separate linguistic category, some linguists classify evidentiality under epistemic modality. Willett (1988) notes that Bybee (1985) counts evidentiality as part of her epistemic category, whereas in his own study, Willett adopts a narrower approach to evidentiality and searches for ‘the minimally distinguishable meanings’ within the category. Other linguists categorize evidentiality and epistemics together under a higher category. For example, Palmer (2001) places both under the higher propositional modality but recognizes an overlap between the two in the notion ‘deductive, which involves both a judgment and evidence’ (Palmer 1981: 24). Similarly, Boye 2012:2-3; Grzech, Schultze-Berndt & Bergqvist (2020: 285) place evidentiality and epistemics together under the notion epistemativity.

de Haan (2005: 380) on whose work the definition of evidentiality adopted in this thesis is based, distinguishes epistemic modality from evidentiality. Similarly, Aikhenvald (2006: 320) states, ‘Evidentiality is a verbal grammatical category in its own right, and it does not bear any straightforward relationship to truth, the validity of a statement, or the speaker’s responsibility’. Murray (2021: 4) expresses a similar view: ‘The type of evidence an individual has for a proposition does not entail the truth, necessity, or possibility of that proposition.’ However, as can be read in Table 1, approaches to evidentiality in studies of English have tended to include extensions to the core meaning of source of information, such as the expression of conviction, commitment, reliability, evaluation, authority. These analyses stand in contrast to the present narrow approach to the study of evidential adverbs in English, which is concerned with the core meaning of evidential adverbs. To work out my narrow approach, I have adopted the hierarchical grammatical tool of FDG, which is described in Section 1.4. This

thesis also adopts the FDG evidential categories described in Hengeveld & Dall'Aglio Hattner (2015).

Table 1. *Approaches to evidentiality in studies of English*

Quirk, Greenbaum, Leech and Svartvik (1985: 620)	In their grammar of English, Quirk et al. categorize what is considered in this paper to be evidential adverbs together with adverbs of epistemic modality as their 'content disjuncts', some of which express conviction while other express doubt.
Chafe (1986: 262-3)	With regard to evidential items in spoken and written English, Chafe discusses reliability and modes of knowing: 'belief, induction, hearsay and deduction'.
Biber (2006:101)	Biber pulls together source of knowledge and attitude to knowledge and lists evidential adverbs relating to source of information together with epistemic adverbs in a stance group called 'maybe adverbials'.
Guimier (1988: 253)	Guimier places adverbs that we call evidential in his ' <i>adverbe de modalité</i> ' and states that they express source of information but also a degree of certainty on the part of the speaker. However, the description of his four types of evidential categories resembles the FDG description, seen in Table 5.
Givón (1993: 75)	In his function-based grammar of English, Givón lists evidential adverbs in his category of epistemic adverbs.
Fox (2001: 170)	Fox focuses on the 'construction of authority, responsibility and entitlement' in the use of evidentiality in English conversation.
Sidnell (2012: 315)	Sidnell views evidentiality within the broader interactional domain, claiming that evidentials can help to create epistemic positioning and 'index a knowledge differential between speaker and recipient'.
Carretero & Zamorano-Mansilla (2013: 319)	Although, in their work on English, Carretero & Zamorano-Mansilla view epistemics and evidentials as two separate categories, they discern 'the common feature of assessing reliability of the information' and add that both categories show the speaker's commitment to the information.

Yang (2013), Yang & Tian (2015)	The authors discuss the evaluative function of evidential expressions in English.
Marín-Arrese, Hassler and Carretero (2017: 1)	The authors put forward that evidentials ‘may carry an indication of the speaker’s attitude and commitment towards the validity of the communicated information.’
Carretero (2019:30)	Carretero analyses of four English evidential adverbs, making a distinction between personal evidentiality and mediated evidentiality and adopts three domains in evidentiality: perceptual, cognitive, and communicative.

The definition of evidentiality used in this thesis, follows de Haan (2005: 380), who distinguishes epistemic modality as an expression of judgment from evidentiality as an expression of origin of information. de Haan’s definition is expanded here with mention of the different knowledge bases from which information can be sourced.

Evidentiality asserts the existence of evidence, which could either be external to or in the speech situation or it could be the result of a cognitive process (Chapter 3: Section 3.2).

The wording of the description of evidentiality reflects the meanings associated with the evidential categories of the different FDG layers, discussed in 1.4.1. All types of evidentiality serve to show that information has been sourced from a different knowledge base.

1.4 Research aim and research questions

The aim of this thesis is to provide an analysis of the distribution and meaning of English evidential *-ly* adverbs. In order to focus on the core meaning of *-ly* evidential adverbs, the FDG analysis’s layering with its underlying semantic structure is adopted for the analysis. Both instances of clausal and non-clausal usage are studied by analysing occurrences in a coherent subset of recent UK newspapers.

Research questions

-Which tests can be used to classify English evidential adverbs in terms of FDG evidential categories.

-What is the distribution of the meanings of *-ly* evidential adverbs in main clauses across the layers as recognized in FDG?

-What is the distribution of *-ly* evidential adverbs in clausal complements?

-Which properties of adjectives determine the distribution of non-clausal evidential *-ly* adverbs found in noun phrases?

1.5 Theoretical embedding: Functional Discourse Grammar

1.5.1 General overview

The layered hierarchical analysis of the grammatical component of FDG follows the functional tradition, originating in the 1960's, of viewing grammatical categories as organized in levels and layers (Butler and Taverniers 2008: 680)⁵. In FDG, layering is determined by semantics and pragmatics (Hengeveld & Dell'Aglio Hattner 2015: 280). However, as FDG also recognizes formal levels in its architecture, Butler and Taverniers (2008:690) label FDG a structural-functional approach, focusing not only on meaning but also formal structure. García Velasco & Rijkhoff (2008: 14-15) point out that the advantage of adopting, for example, the formal label 'noun phrase' instead of a functional label such as 'subject' is that the phrase type is then distinguished from other items, such as pronouns and clauses, which can fulfil the same function.

FDG has been described in Hengeveld and Mackenzie (2008) and Keizer (2015) and is summarized diagrammatically in Figure 1, which shows the core layered grammatical component, which is fed into by the Conceptual Component and the Contextual Component. In FDG, it is by mapping pragmatic and semantic representations on to form, that a language's grammar is accounted for.

The top-down grammatical component includes pragmatics, semantics, morphosyntax and phonology. The central arrows in Figure 1 show the top-down nature of the grammatical component, which starts with a communicative intention and runs to the acoustic, orthographic, or visual-spatial output. The top two rectangular boxes of the grammatical component

⁵ 'The term layering was first used in RRG (Foley and Van Valin 1984) and later adopted in FG (Hengeveld 1987)' (Butler and Taverniers 2008: 680). However, RRG determine layers in relation to position while in FDG they are determined by semantics. (Hengeveld & Dell'Aglio Hattner 2015: 280).

form the area of Formulation (oval shape), which is relevant for the analysis of evidential adverbs. Thus, this study will focus on the levels of Formulation: the Interpersonal and the Representational Levels, which form scopal hierarchies. The two levels of Morphosyntactic Encoding and Phonological Encoding are hierarchical but not scopal.

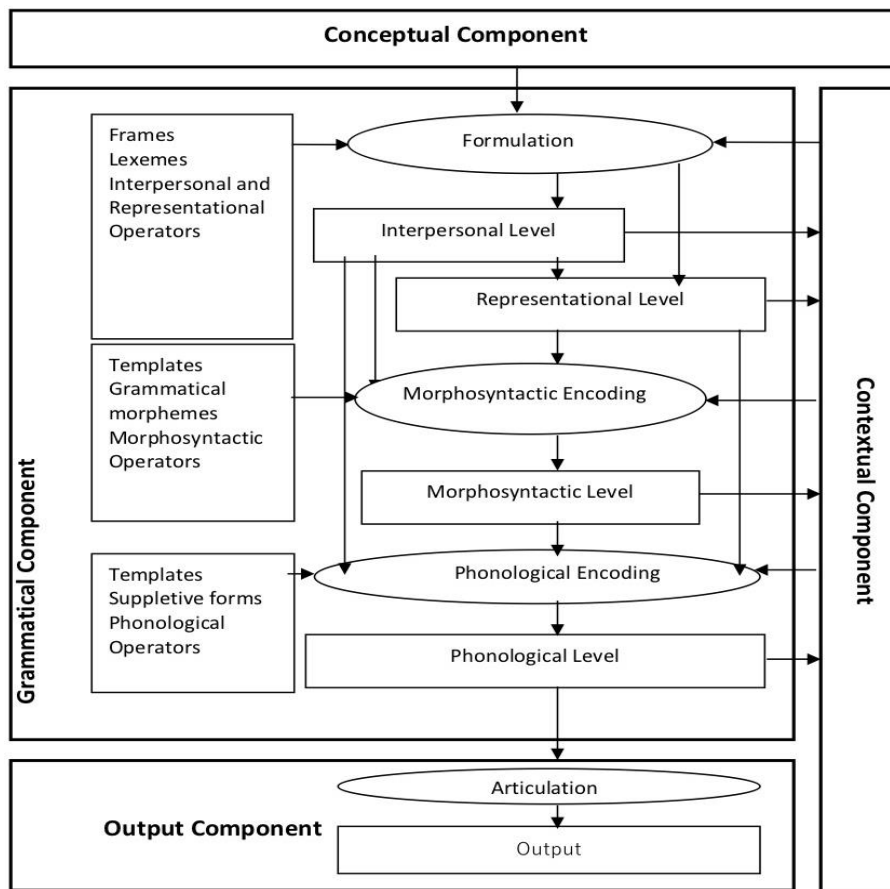


Figure 1. *General architecture of FDG* (Hengeveld and Mackenzie 2008: 13)

The layering of the pragmatic and semantic representations of the Formulation Levels form scopal hierarchies which are mirrored in linearization. Each layer also has its own operators and modifiers.

It is on the Interpersonal level that attention is paid to elements of the pragmatics of communication and social interaction that contribute to

linguistic output. This level comprises ‘all pragmatic aspects that determine the actual form of the linguistic expression’ (García Velasco & Rijkhoff 2008: 11)

Table 2. *Layers of the Interpersonal Level (IL)*

Move (M)	Discourse Act (A)	Illocution (F)	Partici- pants (P)	Communicated Content (C)	Ascriptive Subact (T)	Referential Subact (R)
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The Interpersonal level (IL) comprises the Move (M) that encapsulates the Discourse Act (A), which is viewed as ‘the smallest identifiable unit of discourse’ (Kroon 1997: 27; Hengeveld & Mackenzie 2006: 668). The Discourse Act encompasses the Illocution (F) and its Participants (P), and the message to be conveyed, that is, the Communicated Content (C). which is made up of non-hierarchical Ascriptive Subacts (T) and Referential Subacts (R). The Communicated Content, which represents the message transmitted in a Discourse Act, is made up of non-hierarchical Ascriptive Subacts (T) and Referential Subacts (R), by means of which the speaker evokes properties and referents, but also of certain operators and modifiers, including the reportative adverb as an evidential modifier (see 1.4.2).

Whereas the Interpersonal level is concerned with evocation, the representational layer focuses on designation, which is organized in a hierarchical way according to ontological categories.⁶ The layers of the Representational Level represent semantic entity types (Keizer 2015: 105) as seen in Table 3: Propositional Content (p), Episode (ep), State of Affairs (e), Configurational Property (f^c), Lexical Property (f), and Individual (x).

Table 3. *Layers of the Representational Level (RL)*

Propositional Content (p)	Episode (ep)	State of Affairs (e)	Configurational Property (f ^c)	Lexical Property (f)	Individual (x)
------------------------------	-----------------	----------------------------	---	-------------------------	-------------------

The Propositional Content is a mental construct and includes wishes, hopes but also factual knowledge. The Episode layer is a coherent grouping of States of Affairs that are linked by location, time and participants. The State of Affairs comprises an event that occurs in space and time. The Configurational Property is a combination of a predicate and its arguments that together denote

⁶ Some of these ontological categories relate to Lyons’s orders of entity: the Propositional Content to third order entities, the State of Affairs to second order entities, and Individuals to first order entities (Lyons 1977: 442-443).

the type of State of Affairs, while the Lexical property has no event structure but is a single lexical semantic element. An Individual is a concrete entity that can be located in space but not in time.

1.5.2 Evidential categories in FDG

The layering of the pragmatic and semantic representations of the Formulation Levels forms a scopal relationship which is mirrored in linearization. Each layer also has its own operators and modifiers. The Communicated Content layer, the Propositional Content layer, Episode layer, and State of Affairs layer may host modifiers that have evidential meaning.

Table 4 lists the layers of the grammatical component that are relevant for the analysis of the four types of evidential *-ly* adverbs studied here.⁷ In the fourth column of Table 4, are examples of the type of modifier referred to in the third column (Hengeveld & Hattner 2015).

Evidential modifiers are hosted by one layer of the Interpersonal Level (IL), the Communicated Content, and three layers of the Representational Level (RL): the Propositional Content layer, the Episode layer and the State of Affairs layer.

Table 4. *Layers of the grammatical component with evidential modifiers*

	FDG Layer	Evidential modifier	Example adverb
IL	Communicated Content	Reportative	<i>purportedly</i>
RL	Propositional Content	Inferential	<i>presumably</i>
RL	Episode	Deductive	<i>clearly</i>
RL	State of Affairs	Event Perception	<i>visibly</i>

Reportative evidentiality is situated on the layer of the Communicated Content on the Interpersonal Level. What is reported is information from elsewhere that does not originate with the speaker. The current speaker characterizes the Communicated Content as originating in another speaker. In contrast, the information modified by evidential adverbs on the Representational Level does originate with the speaker. The inferential evidential adverb marks that the information is a result of a cognitive process based on the speaker's existing knowledge, which is a characteristic of the Layer of the Propositional Content. In contrast, deduction is the result of the speaker's cognitive process based on perception within the immediate situation. This two-faceted

⁷ Hengeveld & Fischer 2018 have attested five types of evidentials in their study of A'ingae: quotative, reportative, inferential, deductive and event perception. In English, however, there is no *-ly* adverb that can introduce quotations.

evidential belongs on the layer of the Episode that hosts multiple states of affairs. The lowest evidential category is event perception, which is based solely on perception, reflecting in language what is perceived through the senses without interpretation. It applies at the layer of the State of Affairs, which hosts events tied to place and time.

1.6 FDG predictions regarding modifiers and layering

As a result of the hierarchical and scopal structure of the FDG grammatical component, and based on previous research, certain predictions may be formulated. Predictions used for studying the behaviour of English evidential modifiers in clauses and noun phrases are the following, with an indication of the chapters in which they will be discussed.

1. Reportative evidentials behave differently from other *-ly* evidential adverbs as they are the only type of evidential adverb operating on the Interpersonal Level (Hengeveld & Dell’Aglia Hattner 2015, Anderbois 2014). (Chapter 2)
2. Modifiers on the Representational Level are expected to be contiguous, that is, they will appear in adjacent layers. This prediction arises from diachronic layer-climbing in the grammaticalization process, which means ‘a certain category may assume a function one layer up’ (Hengeveld, Narrog & Olbertz 2017: 7). (Chapter 2, 3)
3. As the hierarchy in the formulation layers is scopal and reflected in constituent order, the layer of a modifier can be tested against the surface order of modifiers or other items of other layers. This means that in a clause, evidential adverbs of a higher layer are predicted to precede items of a lower layer (Hengeveld 2008a: 48).⁸ (Chapter 2, 3)
4. Different types of complement clauses, licensed by matrix complement-taking predicates requiring complements of different layers, will only host modifiers of the same layer as the complement clause or of any lower layer (Hengeveld & Mackenzie 2008: 364). (Chapter 4)
5. Modifiers in the Noun Phrase are sensitive to the layer at which the adjective they modify operates (Hengeveld 2008b). (Chapter 5)

⁸ In English this prediction generally means that items of the highest layers will be furthest to the left of the head.

1.7 Methodology

The focus of interest in this thesis is on the analysis of the present-day occurrence of evidential adverbs in various constructions in English. A choice was made for a written corpus and texts that have usually been edited. This excluded the additional analysis of turn-taking strategies, politeness strategies and issues of intonation, which can all play a role in the analysis of conversational data. The occurrences of the adverbs in UK newspaper articles were extracted from the GB section of the News on the Web corpus (NOW; Davies 2010–now).⁹

The adverbs that were searched in the NOW corpus were adverbs with a core meaning of source of information found in Quirk, Greenbaum, Leech, and Svartvik (1985: 620). Their frequency was checked in the online Collins English Dictionary (2018). The most frequent of adverbs were searched in the NOW corpus. To make sure that there were examples involving perception, *visibly* and *audibly* were searched. The former had sufficient hits to be included but the latter was very infrequent and was excluded from the data collection. In all, 11 adverbs were included in the data collection: *reportedly*, *purportedly*, *allegedly*, *supposedly*, *evidently*, *apparently*, *presumably*, *seemingly*, *clearly*, *obviously* and *visibly*.

One thousand occurrences of the 10 of these adverbs were entered into the dataset excel sheets, some of which turned out to be manner adverbs, such that the actual number of occurrences of evidential adverbs is slightly lower in some cases. For the adverb *purportedly*, only 880 examples were found in the corpus. To the group of 10 adverbs, *visibly* was added to ensure that there was an adverb of direct perception. The majority of the examples in the dataset appeared in newspapers dated a few years before the date of extraction, which was July 2018.

With the exception of Chapter 2, which uses constructed examples, all the analyses are based on data drawn from the NOW corpus. To facilitate the estimation of the occurrence of the adverbs in main clauses, discussed in Chapter 3, and to avoid clustering of topics, randomization was applied to the data. The first 50 occurrences of each adverb, excluding those with a manner reading, were extracted from each list analysed and classified into FDG evidential subcategories.

In Chapter 3, paraphrasing was initially used for checking which type of knowledge base the selected adverbs signaled. Adverbs were subsequently

⁹ All examples, which are from UK newspapers in the NOW corpus, are referenced with the date of appearance and the name of section: GB. The GB section includes newspapers from Great Britain and Northern Ireland.

checked by applying tests involving FDG layers. For Chapters 4 and 5, all the material was searched manually in the data set for evidential adverbs in complement clauses and in noun phrases. The instances that emerged in the various constructions were collated, and then analysed by applying the predictions listed above regarding layering and modifiers.

1.8 Overview of chapters

Chapter 2 focuses on layering in FDG and how it can be used to create tests to determine how evidential adverbs are distributed in declarative sentences in UK English. The results arise from the application of the FDG hierarchical theory to the occurrences of evidential *-ly* adverbs belonging to the different evidential categories recognized in FDG. This chapter uses constructed examples.

Chapter 3 focuses on clausal evidential *-ly* adverbs in main clauses. All the examples are taken from the NOW corpus (Davies 2010–now). An example of the evidential *-ly* adverb *reportedly* in a main clause is shown in (1).

Clausal evidential adverb in a main clause.

- (1) Some fans of the show have *reportedly* had the slogan tattooed on their bodies. (18-05-20 GB)

The English evidential adverbs are categorised according to the four FDG evidential categories. The resulting categorization of the 11 adverbs, found in Table 5, shows that there are more evidentials in the higher FDG layers and that some evidentials occur in more than one evidential category.

Table 5. *Frequent evidential adverbs attested in main clauses in data from the NOW corpus.*

Type of evidential adverb	Examples of evidential adverbs attested in the data set
Reportative	<i>reportedly, purportedly, allegedly, supposedly, evidently, apparently</i>
Inferential	<i>presumably, seemingly, clearly, evidently, apparently, obviously</i>
Deduction	<i>seemingly, clearly, evidently, apparently, obviously, visibly</i>
Event Perception	<i>visibly</i>

For Chapter 4, the data extracted from the NOW corpus were searched for instances of evidential *-ly* adverbs in complement clauses with or without

complementizer *that*. Not only finite clausal complements and but also the non-finite complement clauses were searched and analysed. In (2), the evidential adverb *seemingly* occurs in a finite complement clause without complementizer.

Clausal evidential adverb in a clausal complement

- (2) It soon emerged XYZ.com had *seemingly* "sold" our debt to retrieval agencies. (GB 19-03-23)

As FDG holds that there is a constraint on the occurrence of items in complement clauses of certain complement-taking predicates, the complement-taking predicates in the matrix clause of the instances were classified according to the FDG layers of their complements: the Communicated Content at the Interpersonal Level, and the highest three layers of the Representational Level. According to the constraint, evidential adverbs should not be of a higher FDG layer than the complement clause within which they occur. The evidential adverbs were analysed and checked against the layer of the complement clause. If the layer of the evidential adverb was higher, further analysis took place.

Chapter 5 focuses on evidential *-ly* adverbs occurring in a non-clausal environment. From the data, noun phrases with one adjective were extracted, where that adjective was modified by only one further modifier, an evidential *-ly* adverb. Furthermore, only noun phrases not embedded in a higher noun phrase were considered.

Non-clausal evidential adverb modifying an adjective in a noun phrase.

- (3) A *visibly* tearful Guthrie told viewers: "We learned this moments ago, just this morning." (17-11-29 GB)

The chapter shows how the occurrence of evidential adverbs is constrained by adjectives operating at different layers, and by adjectives expressing certain properties, such as permanent ones.

Chapter 6 provides the conclusions with respect to the application of the FDG predictions to instances of evidential adverbs in recent UK newspaper texts. Not only were some FDG predictions met but also new predictions for the (non)occurrence of evidential adverbs in English were uncovered.

2 English evidential adverbs: criteria and correlates¹⁰

2.1 Introduction

This chapter explores various criteria for distinguishing the four evidential subcategories recognized in Functional Discourse Grammar (FDG): reportativity, inference, deduction and event perception, and subsequently reveals more findings regarding English evidential adverbs. Although there are various word classes and phrase types that express evidentiality in English, such as (phrasal) verbs and adjectives, the focus in this paper is on evidential adverbs used in clauses in declarative sentences. 11 frequent evidential adverbs, which all end in *-ly* and all extracted from a corpus of recent UK newspapers, are analysed in Chapter 3. These are *reportedly*, *allegedly*, *purportedly*, *apparently*, *supposedly*, *evidently*, *presumably*, *obviously*, *seemingly*, *clearly*, and *visibly*, which fall into diverse FDG subcategories with the key goal of expressing from where the speaker has retrieved/sourced the information in the clause. Some of these adverbs will be used in tests in this chapter. Whereas in Chapter 3, 4 and 5, examples with English evidential adverbs from the NOW corpus provide the data, most examples in this chapter are constructed by the author and judged by native speakers of UK English.

A key feature of the FDG pragmatic and semantic representations are that they are hierarchically organized in terms of layers that are in a scopal relationship, which is reflected in linearization. Using tests, this fundamental property, and input from previous work on the categorization of evidentials, this paper aims to further explore the distribution and usage/behaviour of evidential adverbs in UK English.

Section 2, which briefly discusses domains of research into evidentiality, leads up to a presentation in Section 3 of the treatment of evidential adverbs in the grammatical component of the FDG model. In Section 4, tests from Peterson (2017), Murray (2017) and AnderBois's (2014) reveal characteristics of the meaning associated with FDG subcategories. Section 5 explores correlates, in other words, how the four classes of English evidential adverbs manifest different behaviour in terms of their syntactic position, their scope, and their occurrence in complement clauses.

¹⁰ This chapter is a slightly adapted version of an article that has been accepted by *Functions of Language*.

2.2 Evidentiality

The meaning of evidential items has been discussed widely in connection with non-Indo-European languages by Aikhenvald (2004) and many others, including Hengeveld & Dall’Aglio Hattner (2015). The latter two authors use the hierarchical model of FDG to categorise subcategories of evidentiality in 64 Brazilian languages. Evidential items in these languages are grammatical expressing evidentiality through, for example, affixes, while English adverbs are lexical. However, instances of both types are associated with evidential subcategories at different layers within the FDG framework.

Some linguists have taken a broad view of evidentiality as a category that includes epistemics or that is a subcategory of epistemics, or view both as components of a higher category. There are, indeed, close pairs in which epistemic meaning and evidential inferential meaning appear to be similar, for example, epistemic *maybe* and evidential *presumably*. Nuyts (2017) points out that the epistemic modality and inference both concern a reasoning process yet they ‘denote different aspects of this process’ (Nuyts 2017: 72). The former expresses the result of the process while the latter merely acknowledges the process. In other words, in the use of the former, the emphasis is on the notion ‘possibility’ while in the latter, the emphasis is on the indication of source. As such, epistemics and evidentiality remain two separate grammatical categories. Other linguists have taken an inclusive view, as it is called here, which studies the role of evidentiality with respect to reliability, attitude, commitment and evaluation. This thesis adopts a narrow view focusing on the meaning of evidential items as indicating the source of knowledge. Thus, evidentiality is studied here as an expression of where the information presented comes from. Here, de Haan’s (2005:380) definition of evidentiality has been adapted to cover the four FDG subcategories of evidentiality mentioned above.

Evidentiality asserts the existence of evidence, which could either be external to or in the speech situation or it could be the result of a cognitive process. (Chapter 3, Section 3.2)

Evidential adverbs reveal the knowledge base from which the speaker draws information. As such, they scope over information but do not influence or state anything about the way in which an action occurred or the nature of any lexical item, so they are unlike other adverbs, such as, those expressing manner.

2.3 FDG and its evidential subcategories

2.3.1 FDG

FDG, a model with the typological aim of comparing and contrasting grammars of different languages, is a top-down grammatical model of discourse acts with each level feeding into lower levels (see Figure 1). The input for the top-down, hierarchical grammatical component of the FDG scheme, comes from a Conceptual Component and enters the two highest levels of formulation that prepare the interactional and semantic features of the message. The highest of these two levels is the Interpersonal Level, which is concerned with the pragmatics of interaction between the speaker and addressee. The next lower level of formulation, the Representational Level, focuses on the semantic representation of the message. The next two Levels, the Morphosyntactic Level with its templates of the structure of language patterns and the Phonological Level which hosts the phonological representation of an utterance, make up the Levels of Encoding.

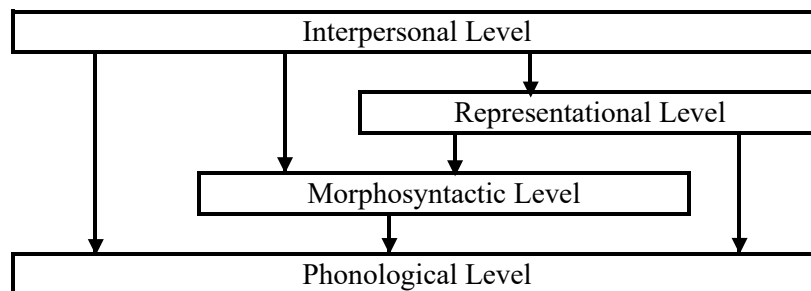


Figure 1. *Levels of the FDG grammatical component*

Only the two highest levels shown in Figure 1 are relevant for presenting the analysis of evidential adverbs. Each of these levels is divided into layers, which are presented in Table 1 and Table 2. The Interpersonal Level is found in Table 1, showing the speaker-bound elements of its layers, which form a hierarchy from left to right. The Move (M) is made up of various Discourse Acts, while the Discourse Act (A) is made up of an Illocution (F), Speech Participants (P) and the Communicated Content (C).

Table 1. *Layers of the Interpersonal Level*

Layer	Move	Discourse Act	Illocution	Speech Participants	Communicated Content
Abbreviation	M	A	F	P	C

The hierarchical structure of this highest level of formulation is shown by the brackets used in the formula in (1). The abbreviations used are found in Table 1.

$$(1) \quad (M_I: (A_I: [(F_I) (P_I)_S (P_I)_A (C_I)] (A_I)) (M_I))$$

In (1), the Move (M) is shown as being made up of a Discourse Act (A) and the components that are found in square brackets: the Illocution (F), Speech Participants (P) and the Communicated Content (C). The Communicated Content layer (C), which evokes the message that the speaker wishes to convey, hosts the Reportative evidential. The other three evidential subcategories are hosted by the highest three layers of the Representational Level: Propositional Content, Episode, and State of Affairs shown in Table 2. The three layers form a prediction of dominance from left to right, or, in other words, the layers form a scopal hierarchy.

Table 2. *Layers of the Representational Level*

Layer	Propositional Content	Episode	State of Affairs	Configurational Property	Lexical Property
Abbreviation	p	ep	e	f ^c	(f ⁱ)

The hierarchy within the Representational Level can be read off in the formula in (2), which uses the FDG abbreviations found in Table 2.

$$(2) \quad (p_i: (ep_i: (e_i: (f_i^c: [(f_i^i) \dots] (f_i^i)) (e_i)) (ep_i)) (p_i))$$

In the formula, the brackets show that the Propositional Content (p_i) can contain all the layers to its right: Episode (ep), State of Affairs (e) and Configurational Property (f^c). On this level, the predicted dominance holds between a layer and the layers to its right.

Although the layers in Table 2 form a scopal hierarchy, they designate different orders of entities as referred to by Lyons (1977: 443-445). Third order entities, such as propositions, which are not anchored in space and time fall under the FDG Propositional Content. Lyons' second order entities, such

as events, and processes, are located in space and time fall under two layers in FDG: the Episode Layer for multiple States of Affairs that are linked in time, space and participants, and single States of Affairs at the Layer of State of Affairs. A State of Affairs is characterized by a combination of a predicate with its arguments that make up the Configurational Property. The Lexical Property stands for any property denoted by any lexical element.

2.3.2 Four types of evidentiality in FDG

FDG identifies four categories of evidentiality¹¹ or rather four different knowledge bases, which fit the nature of the FDG layers found in Table 3. The four FDG evidential categories indicate that information asserted is drawn from a knowledge base which is available to the speaker. Table 3 shows the layers that host the four FDG types of evidential adverbs. The double vertical line stands for the main division between the evidential category on the highest FDG Level, the Interpersonal Level and those of the lower Representational Level.

Table 3. *Layers relevant for evidential categories*

Levels	Interpersonal Level	Representational Level		
Layers	Communicated Content	Propositional Content	Episode	State of Affairs

Within work on the categorization of evidential items, the terms ‘direct’ and ‘indirect’ have been prominent. Direct evidentials mark that the speaker has accessed information through direct perception, auditorily or visually. Indirect evidentials mark that the speaker arrives at the information from a source other than sensory perception. Hengeveld and Dall’Aglio Hattner (2015: 495) compare their four levels of analysis to other authors’ analyses of direct and indirect evidentiality. Table 4 shows that FDG concurs with other authors in considering direct evidence/event perception as a separate subcategory. We also see that the adopted FDG four-way distinction in meaning includes three indirect subcategories: Reportatives on the Interpersonal Level (i.e. the pragmatic level), and Inference and Deductives on the Representational Level.

¹¹ This four-way division corresponds to that found in Aikhenvald’s description of C2 languages in which a distinction is made between the reportative, inference based on general knowledge, inference based on ‘direct physical evidence’ and direct evidentiality (Aikhenvald 2006:320).

Table 4. *Comparing classification of evidential subcategories* (Abstracted from Hengeveld & Dall’Aglio Hattner 2015: 495)

FDG Levels	Interpersonal Level	Representational Level		
Evidential subcategories	Reportative	Inference	Deduction	Event Perception
Other authors	Indirect			Direct

Like evaluative modifiers (Keizer 2019: 9), evidential modifiers do not restrict the meaning of the information in its scope but merely provide a comment about the source from which the information has come. Each evidential subcategory represents a different knowledge base. The four knowledge bases of the FDG evidential categorisation comprise not only sources from outside the speech situation that are known to the speaker, but also information arising from speaker inferencing and speaker perception within the speech situation. Thus, a knowledge base may be information that has been expressed by others, information inferred from a speaker’s personal knowledge, perception leading to a conclusion, or a reflection of direct perception. Table 5 shows the available knowledge bases and their hosts. The only evidential subcategory on the Interpersonal Level is the reportative, which presents information from a knowledge base elsewhere, indicating that it is not originally the speaker’s nor is it perceived in the direct situation. In contrast, two of the subcategories on the Representational Level involve the speaker’s inferencing and two involve speaker perception. The category of deduction involves both.

Table 5. *Features of different knowledge bases* (See Sections 3.2.2.2 and 4.2.2.1)

Level	Communicated Content	Propositional Content	Episode	State of Affairs
Evidential subcategory	reportative	inference	deduction	event perception
Knowledge base	involves information from elsewhere	involve inference		No inference
		No perception	involve perception	

Using the FDG evidential subcategories, Chapter 3 classifies 11 frequent English evidential adverbs occurring in main clauses in recent UK newspaper articles and extracted from the NOW corpus (Davies 2010–now). The resulting categorisation in Table 6 shows that some adverbs appear in more than one evidential subcategory, which means that they can express

more than one source or knowledge base for information within their scope. I return to single and multiple meanings of these adverbs in Section 4.

Table 6. *FDG Categories of evidentiality and their members* (from Chapter 3, Section 3.5.7)

Reportative	<i>reportedly, allegedly, purportedly, apparently, supposedly, evidently</i>
Inferential	<i>presumably¹², clearly, obviously, apparently, evidently, seemingly</i>
Deductive	<i>apparently, clearly, visibly, obviously, evidently, seemingly</i>
Event perception	<i>visibly¹³</i>

2.4 Testing for the four subcategories of evidentiality

2.4.1 Introduction

The various tests used in this section not only confirm the classification of English evidential adverbs into the four FDG evidential subcategories, but also reveal characteristics of the FDG subcategories and thus of English evidential adverbs. Section 2.4.2 firstly illustrates the use of 4 types of evidential adverbs. Subsequently, in Section 2.4.3, using a contingency and contradiction test based on Peterson (2017) and Murray (2017), single meaning adverbs and adverbs with multiple meaning are tested for subcategory membership.

Finally, Section 2.4.4 discusses the exceptional status of the reportative among the four evidential categories.

2.4.2 The four types of evidential meaning in use

In Table 7, based on the division of English evidential adverbs established in Chapter 3, one adverb from each subcategory is selected. The adverb is used in a constructed response to the situation described at the top of the table. In the NOW data used in Chapter 3, the evidential adverbs *reportedly* and *presumably* were only found as reportative and inferential respectively. The information within the scope of *reportedly*, a reportative adverb, is from a knowledge base outside the speech situation, whereas the information within the scope of *presumably*, an inferential adverb, is from the internal knowledge

¹² It should be noted that in the data from the analysis of the NOW corpus (Chapter 3), no such instances of *presumably* were identified. However, *presumably* can occur as an evidential adverb of deduction.

¹³ There were too few instances of *audibly* in the NOW corpus data to include this adverb in the analysis.

base of the speaker and reflects a cognitive process. For the categories of the two lower layers, a choice has been made between adverbs with multiple meanings: *clearly* acts in Table 7 as an adverb of deduction which indicates that a cognitive process based on the perception of an external situation is being expressed, while *visibly* acts as an adverb of event perception indicating that only direct perception of an external situation is being expressed.

Table 7. Responses with the 4 FDG types of evidential meaning

<i>The situation.</i> When my colleague walks in soaked from the rain and says she has to leave again by bike in half an hour, I might say one of the following depending on the knowledge base that I am drawing on.	
<i>Response to the situation</i>	<i>Evidential category</i>
<i>Reportedly</i> , it will clear up soon. I heard that on the radio just now.	Reportative
<i>Presumably</i> , it will clear up soon. It never rains for long here.	Inferential
<i>Clearly</i> , it will clear up soon. Just look at those bits of blue sky.	Deduction
At the moment, rain is <i>visibly</i> bouncing off the street.	Event Perception

In Table 7, the information that *reportedly* scopes over: ‘it will clear up soon’ has been gleaned from the radio. Inferential *presumably* also scopes over the same clause but evidence for the statement that ‘it will clear up soon’ is sourced from the internal knowledge base of the speaker. The same clause scoped over by deductive *clearly* expresses an inference based on evidence drawn from perception. The event perception adverb *visibly* reflects a directly perceived event in the world without any inferencing.

2.4.3 Contingency and Contradiction

2.4.3.1 Single readings of evidential adverbs

In this section, I discuss the semantics of the four evidential categories by applying Peterson’s (2017) contingency and contradiction test and Murray’s test for reportatives (2017) to one adverb from each evidential subcategory. As in Table 7, the evidential adverbs *reportedly*, *presumably*, *clearly* and *visibly* were chosen for the test.

Each adverb in italics in Table 8 represents a subcategory of evidential adverbs, which is targeted and contradicted in the test. The present test uses ‘as’ in contingency sentences, which echoes the meaning of the evidential in the first clause, while ‘though’ is used in contradiction sentences, in which the speaker denies the availability of the knowledge base expressed by the

evidential adverb in the first clause. Thus, in the second clause of the contradiction sentences, the validity of the information presented in the first clause is undermined and the whole sentence is judged as odd and marked with a hashtag (#).

The first-person pronoun is used here as it is the speaker who uses the adverb and who has access to the information. The reportative indicates that information is from elsewhere but known to the speaker. Inferential and deductive evidentials are based on the speaker's own knowledge and the speaker's own perception. Murray (2021: 12) expresses this as follows, 'in declaratives, evidentials are typically anchored to the speaker.'

Table 8. *Semantic contingency and contradiction diagnostic*

Evidential category	Semantic diagnostic	
Reportative	Contingency	<i>Reportedly</i> Jane is ill, as somebody told me.
	Contradiction	# <i>Reportedly</i> Jane is ill, though nobody told me.
Inferential	Contingency	<i>Presumably</i> Jane is ill, as I know she is always on time.
	Contradiction	# <i>Presumably</i> Jane is ill, though I have no knowledge about her.
Deduction	Contingency	<i>Clearly</i> Jane is ill, as I saw her throw up.
	Contradiction	# <i>Clearly</i> Jane is ill, though from what I saw, I wouldn't think she was.
Event Perception	Contingency	The bump on Jane's forehead is <i>visibly</i> swelling, as I can see it change.
	Contradiction	#The bump on Jane's forehead is <i>visibly</i> swelling, though I cannot see it change.

In Table 8, the contingencies and contradictions regarding the type of knowledge base sourced support the results of the FDG categorisation of evidential adverbs in Chapter 3.

2.4.3.2 Multiple readings

In the categorisation of evidential *-ly* adverbs in Table 6, some evidential *-ly* adverbs appear in more than one evidential subcategory. In Table 9, the contingency and contrast test is applied to the three instances of the adverb *apparently*, which are classified into three evidential categories. To reveal more about the categorisation, Table 9 and 10 show sentences that contain evidential adverbs with possible ambiguous meaning.

In Table 9, the subcategory relevant to the example sentences is noted in the first column. Each contingent second clause supports the semantics of

the evidential in the first clause by echoing its meaning. In the contradiction rows, the second clause does not echo the evidential knowledge base of *apparently* in the first clause, so the sentence is semantically odd and marked with a hashtag.

Table 9. Semantic contingency and contradiction diagnostic with *apparently*

Evidential subcategory		Semantic diagnostic
Reportative	Contingency	Jane is <i>apparently</i> ill, as somebody told me.
	Contradiction (i)	#Jane is <i>apparently</i> ill, though I haven't heard that /nobody told me.
Inferential	Contingency	Jane is <i>apparently</i> ill, as I know she is always on time.
	Contradiction (ii)	#Jane is <i>apparently</i> ill, though I have no knowledge about her.
Deduction	Contingency	Jane is <i>apparently</i> ill, as I saw her throw up.
	Contradiction (iii)	#Jane is <i>apparently</i> ill, though from what I saw, I wouldn't think so.

The second clause of sentence (i) seems odd, as knowledge of the reported information is denied. The oddness disappears if *apparently* has the meaning of deduction. If, for example, Jane was not present at the appointed time, then from her perceived absence, it could be concluded that she was ill. The hashtag before contradiction sentences (ii) and (iii) indicates that the meaning of the inferential and deductive evidential is not echoed in the second clause. Both inferential and deductive subcategories involve inferencing by the speaker whereas the reportative does not. Therefore, if *apparently* in (ii) and (iii) is read as a reportative indicating that information regarding illness is derived from elsewhere, contradiction sentences (ii) and (iii) would not be odd: 'Jane is *apparently* (reportative) ill but I have no (direct) knowledge about her/ from what I saw, I wouldn't think so'. As the reportative *apparently* would not involve perception or speaker inferencing, the second clause of the contradictory sentences would not clash with the meaning of the evidential adverb occurring in the first clause. In other words, the speaker would not be contradicting her/himself.

Table 10 applies the same pattern of contingency and contradiction as that used in Tables 8 and 9 to the lowest layer of the evidential subcategories: *visibly* at the layer of Deduction as compared to the use of Event Perception *visibly*. The test revolves not only around the ambiguity of the evidential adverb but also the ambiguity of the word 'hurt', which can express either emotional pain as in the deduction contingency examples, or physical injury

as in the event perception contingency examples.

Table 10. *Semantic contingency and contradiction diagnostic with visibly*

Evidential category		Semantic diagnostic
Deduction	contingency	Jane is <i>visibly</i> hurt, as she has tears in her eyes/ on her face.
	contradiction (iv)	#Jane is <i>visibly</i> hurt, though she seems fine.
Event perception	contingency	Jane is <i>visibly</i> hurt, as she has wounds all over her body.
	contradiction (v)	#Jane is <i>visibly</i> hurt, though she doesn't have any wounds.

When *visibly* conveys the meaning of deduction, it marks a conclusion that had been drawn from an observation. The emotional meaning of *hurt* is evident in the first contingency sentence whereas the contradictory sentence (iv) appears slightly odd unless the meaning of *visibly* is read as event perception with the physical meaning of '*hurt*'. Similarly, the oddness of the contradictory sentence (v) disappears when *visibly* is read as expressing deduction with the emotional meaning of *hurt*.

2.4.3.3 Intermediate conclusions

From the analysis in 2.4.3.2, we may conclude that for the scoped information, the designation of a relevant knowledge base known to the speaker and the classification of the evidential adverb as being a reportative, inferential or one of deduction or event perception depends on the surrounding context. The chameleon-like nature of some of the evidential adverbs means that these adverbs have the potential to express different meanings and to belong to different evidential subcategories. In other words, the context contributes to the determination of the meaning of the adverb and the evidential subcategory to which the adverb is designated. Furthermore, we may conclude that if the context does not support a certain interpretation of an evidential adverb with multiple meanings, the context will guide the interlocutor to another interpretation of the evidential adverb.

2.4.4 The exceptional status of reportativity

Although all four evidential categories designate a knowledge base, some authors note that there is a difference between the reportative and the other

three categories. I explore the difference between the reportative and the other categories of evidentials by applying a challengeability test and by discussing AnderBois's 'reportative exceptionality'.

From their results of the analysis of evidentiality in indigenous languages of Brazil, Hengeveld & Dall'Aglia Hattner (2015: 517) conclude that the reportative on the Interpersonal Level forms a category 'in its own right', while the three other categories on the Representational Level form an implicational hierarchy as in Figure 2 and Table 11, in which the reportative does not participate.

Inference -> Deduction -> Event Perception

Figure 2. *Implicational hierarchy on the Representational Level*

Hengeveld & Mackenzie (2008) note that a challengeability test can be used to identify a distinction between elements at the Interpersonal Level and the Representational Level by revealing a difference in truth-conditionality. In the challengeability test inspired by Faller (2002: 195) shown in Table 11 (a-d), each second clause challenges the first clause. The intended subcategory of the evidential adverb in italics is found in column 1. When it is only the information in the scope of the evidential ('he has left for Paris') that is challenged, as in (a), then the evidential is not considered to be truth-conditional and belongs on the Interpersonal Level. In examples (b-d), the evidential together with the information in its scope can be challenged, which means that the evidentials are truth-conditional and belong to the Representational Level.

Table 11. *Challengeability test*

Reportative	a. He had <i>reportedly</i> left for Paris but that's not the case.
Inference	b. He is not answering so he has <i>presumably</i> left for Paris but I could be wrong/mistaken about this/#but that is not the case.
Deduction	c. I saw him carrying a suitcase. He was <i>clearly</i> leaving town, but I could be wrong/mistaken about this/#but that was not the case.
Event Perception	d. He was <i>visibly</i> smoking in a non-smoking carriage, but I could have seen someone else smoking/#but that was not the case.

Following the first clause with an evidential in (b-d), the speaker expresses doubt about the correctness of his/her own logic and perception on which the various evidentials rely. Thus, not only is the scoped information doubted but the meaning of the evidential is doubted by the speaker as well, and these

evidential adverbs count as truth-conditional and belong to the Representational Level. This test offers support for the argument that the nature of reportative evidentiality is different from the nature of the other evidential categories.

To highlight the difference between evidential categories further, we first mention Faller (2002: 26; 199-200), who claims that the reportative presents a proposition rather than asserting it. That the information which the reportative scopes over can be negated is what AnderBois (2014) calls ‘reportative exceptionality’. AnderBois (2014: 239) states ‘an evidential-marked claim can be felicitously denied by the same speaker only if its evidence type is reportative.’ Murray (2017: 20), too, points out that the speaker can contradict what has been reported.

AnderBois (2014: 236) describes this feature of the reportative by adopting the notion of ‘pragmatic perspective shift’, which he defines as follows: ‘reportatives introduce another prospective agent whereas other evidentials do not’. In (a) of Table 11, there is a perspective shift as someone other than the speaker has provided information about the departure. Thus, the reportative adverb can distinguish a speaker perspective from a non-speaker perspective, which AnderBois (2014: 243) calls ‘a disconnect’. He also states that non-reportative evidentials ‘invoke the perspective of the speaker’ (AnderBois 2014: 245). In reportative (a), unlike (b,c,d), the speaker cannot only doubt but also deny the report in the scope of the reportative evidential. The inferential evidential, the deductive and event perception adverbs, which are all on the Representational Level, create a speaker perspective, which means that the information within their scope can subsequently be doubted by the same speaker. However, a denial by the speaker would mean that the speaker contradicts her/himself, which is more unlikely.¹⁴

2.5 Correlates: Some grammatical phenomena echoing the FDG classification of evidential adverbs

2.5.1 Introduction

In this section, the classification established in Section 4 is used to reveal more about the behaviour of English evidential adverbs within the sentence. I first focus on the notion of scope in Section 2.5.2 and move on to the way in which English evidential adverbs act with other grammatical features (2.5.3, 2.5.4).

¹⁴ Yet another approach to the exceptionality of the reportative is Bhadra’s (2020: 386), which suggests that the Reportative moves on a gradient of reliability whereas other evidential adverbs do not.)

In Section 2.5.2, I show that constituent order can be determined by the meaning of English *-ly* adverbs, and in Section 2.5.3, I consider the co-occurrence of two evidential adverbs of different layers in the same clause. Furthermore, in 2.5.4, it becomes clear that the semantics of clausal complement of some predicates can constrain the use of evidentials.

2.5.2 Scope and constituent order

This section studies how constituent order reflects the scope of evidential adverbs, and thus word order indirectly tests the conclusions about the layers at which the evidential adverb has been classified in the FDG layering hierarchy. Clausal evidential adverbs are viewed as FDG modifiers that comment on the information that is in their scope. When discussing modifiers and scope, Keizer, Schwaiger and Ten Wolde (2022: 516) states ‘each modifier belongs to (scopes over) a particular interpersonal or representational layer.’

As illustrated in (3a and 3b), the scope of the three types of evidential adverb covers the whole sentence and is not limited by the conjunction ‘but’. It can also be seen in (3) that the immediacy of *visibly* as an event perception adverb constrains its use in this context.

- (3) Mark *reportedly/presumably/clearly/#visibly* did not read the chapters but read the articles. (adapted from Hengeveld & Mackenzie 2018: 26)

The notion of hierarchy in FDG is intricately linked to the notion of scope, which is itself reflected in constituent order, which I briefly illustrate with the evidential adverb *visibly* that has a manner counterpart. The evidential and manner adverbs appear at different positions in the clause. The evidential adverb *visibly* in (4a) is a pre-verbal adverb with broader scope, whereas the manner adverb ‘visibly’ in (4b) is a postverbal adverb with narrow scope over the predicate ‘wined’.

- (4) a. He *visibly* winced repeatedly. (evidential)
b. Repeatedly he winced ‘visibly’. (manner)

The sentence with the evidential *visibly* in (4a) in pre-verbal position means ‘It was visible (for me) that he winced a number of times’. *Repeatedly* is on the same layer as *visibly*, an evidential of direct perception on the layer of the State of Affairs. In contrast, sentence (4b) with the post-verbal manner adverb ‘visibly’ means ‘he winced in a visible manner a number of times’, and

‘visibly’ is on the layer of the Lexical Property, a layer lower than and scoped over by ‘repeatedly’ on the State of Affairs.

As scope is expected to be reflected in constituent order, we will check the evidential category to which the adverb has been assigned by discussing the order of evidential adverbs in relation to other adverbials and the operator ‘not’, whose layer in the hierarchy has already been established (Hengeveld & Mackenzie 2018). The adverbials used for the test as set out in Table 12 are: ‘maybe’ at the Propositional content layer, ‘yesterday’ at the episode layer and ‘every day’ of the State of Affairs Layer.

Table 12. *Categorisation of evidential adverbs, ‘maybe’, ‘yesterday’ and ‘every day’*

Level	Communicated Content	Propositional Content	Episode	State of Affairs
Evidential subcategory	Reportative <i>Reportedly</i> (i)	Inference <i>Presumably</i> (ii)	Deduction <i>Visibly/clearly</i> (iii)	Event perception <i>Visibly</i> (iv)
Other adverb(ial)s		possibility ‘maybe’ (A)	time ‘yesterday’ (B)	recurrent time ‘every day’ (C)

In steps (a-d) in (5-7) below, the placement of a representative adverb from each evidential subcategory is tested against a non-evidential adverb that is representative of an FDG layer. In all cases, it is expected that the order of adverbs in a clause will follow the FDG hierarchical layers from highest to lowest: Communicated Content, Propositional Content, Episode and State of Affairs.¹⁵ The line between the examples marks the change in position of the non-evidential adverb, which is also reflected in the sub-headings below. For example, in (5a) ‘maybe’ at the propositional content layer is positioned relative to the position of the evidential adverb *reportedly*, which is on the higher interpersonal level. The brackets indicate a potential position, while the asterisk in examples in (5) indicates that the position is not acceptable. In (6 and 7) only possible positions are shown.

- (5) Reportativity versus Inference / Deduction / Event Perception with non-evidential adverb ‘maybe’ at the propositional content layer.

¹⁵ So as not to involve the parenthetical status of an adverb, the evidential is intonationally integrated, which means that there are no cases where an evidential would be preceded or followed by a pause or a comma.

- a. He (*maybe) *reportedly* (maybe) realized what the dangers were.
-
- b. He (*maybe) *presumably* (*maybe) realized what the dangers were.
- c. He (maybe) *clearly* (*maybe) feared that bombs would explode.
- d. He (maybe) *visibly* (*maybe) paled at explosions.

In (5a) propositional ‘maybe’ cannot precede the reportative adverb *reportedly* of the higher layer of Communicated Content. In (5b) the two adverbs are on the same Propositional Content Layer but the meanings of the two adverbs refer to the same cognitive process and are therefore difficult to understand when appearing together. ‘Maybe’ expresses the result of the process, which is possibility while *presumably* marks that a process based on the speaker’s knowledge has taken place. The acceptable orders in (4c,d) shows that deductive *clearly* of the Episode layer and *visibly* of the Event Perception layer are of a lower layer than propositional ‘maybe’.

- (6) Reportativity / Inference versus Deduction / Event Perception with non-evidential adverb *yesterday* of the Episode layer.
 - a. He *reportedly* realized (yesterday) what the dangers are.
 - b. He *presumably* realized (yesterday) what the dangers are.
 -
 - c. (Yesterday) he *clearly* feared that bombs would explode.
 - d. (Yesterday) he *visibly* paled at the explosions.

Both the reportative in (6a) and the inferential in (6b) can occur before ‘yesterday’, which shows that they scope over this Episode layer time adverb. In (6c and 6d), the acceptable word order shows that ‘yesterday’ scopes over the deductive adverb *clearly* of the Episode Layer and *visibly* of the State of Affairs (7).

- (7) Reportativity / Inference versus Deduction / Event Perception with non-evidential adverb ‘every day’ of the State of Affairs layer.
 - a. He *reportedly* realizes (every day) what the dangers are.
 - b. He *presumably* realizes (every day) what the dangers are.
 - c. He *clearly* fears (every day) that bombs will explode.
 -
 - d. (Every day) he *visibly* pales (every day) at the explosions.

(7 a,b,c), which are reportative, inferential and deductive, scope over the States of Affairs adverbial ‘every day’. In (7d), the recurrent time adverbial is at the same layer as the evidential adverb, which is reflected in the fact that either order is possible.

Turning now to negation, simple clausal negation in English is classified at the FDG layer of the Episode whereas evidential adverbs are modifiers of four different FDG layers. Murray (2017, 2021) reports that it is ‘a widely attested pattern that evidentials scope over negation’ (2021: 9). This holds for the reportative and the inferential in (8a and b). In the examples in (8), the reportative (8a) and inferential evidential (8b) are of a higher FDG layer than negation and scope over ‘not’. As both the negation and the evidential in (8b) are on the layer of Episode, deductive *clearly* can precede or follow ‘did not’. The adverb maintains an evidential reading: ‘it was not noticeable that he feared the bombs.’ However, *not* scopes over evidential adverbs with a meaning that only reflects perception as in (8d), as the event perception adverb, *visibly* is on a lower layer than the Episode layer of ‘not’, and thus ‘did not’ precedes the evidential in (8d).

- (8) Scope of evidential adverbs in relation to ‘not’.
- a. Reportative: He (*did not) *reportedly* (did not) realize what the dangers were.
 - b. Inferential: He (*did not) *presumably* (did not) realize what the dangers were.
 - c. Deduction: He (did not) *clearly* (did not) fear that the bombs would explode.
-
- d. Event Perception: He (did not) *visibly* (#did not) pale at explosions.

2.5.3 Co-occurrence of evidentials

Although the co-occurrence of two evidential adverbs in the same clause is seen extremely rarely in the NOW corpus data, when this is attested, both evidential adverbs are of the same layer¹⁶. It is predicted that the order of co-occurring evidential adverbs of different layers will adhere to the FDG hierarchical ordering as in (9). It is also predicted that clauses with any other

¹⁶ *Donald Trump's inauguration crowd was visibly, and noticeably, smaller than that of his predecessor, Barack Obama (17-10-20 GB)*. The evidential adverbs *visibly* and *noticeably*, which modify the comparative *smaller* are classified as deductive.

order will be unacceptable in the intended meaning, which is marked by a hashtag (#).

Reportative -> Inferential -> Deductive -> Event Perception

Figure 3. *The hierarchical ordering of evidential categories in FDG*

Below are examples of pairs of evidential adverbs from different evidential subcategories. The order that respects the hierarchy order is presented in examples (a), the one that does not do so in examples (b). The intended reading of the evidential appears between brackets after the adverb.

(i) Reportative and inferential

(9) uses the hierarchical ordering Reportative -> Inferential. *Reportedly* indicates that the speaker has sourced the information from elsewhere, so not within the speech situation nor from a speaker conclusion drawn from known knowledge. *Presumably* indicates an inference.

- (9) a. *Reportedly* (reportative) the residents will *presumably* (inferential) object.

The inverse order Inferential -> Reportative in sentence (10b) creates a clash of sources, which makes the sentence is difficult to understand.

- (9) b. **Presumably* (inferential) the residents will *reportedly* (reportative) object.

(ii) Reportative and deduction

The hierarchical order is shown in (10a) and is grammatical as predicted.

- (10) a. *Reportedly* (reportative) dogs are *clearly* (deduction) allowed on the ferry.

The inverse order reveals an unfavourable sentence (10b).

- (10) b. **Clearly* (deduction) dogs are *reportedly* (reportative) allowed on the ferry.

(iii) Reportative and event perception.

The order of the adverbs is hierarchical in (11a) and the sentence is grammatical.

- (11) a. *Reportedly* (reportative) the tourists *visibly* (event perception) paled as the ship rolled at 30 degrees.

The inverse order is unacceptable (11b):

- (11) b. **Visibly* (event perception) the tourists *reportedly* (reportative) paled as the ship rolled at 30 degrees.

(iv) Inferential and deduction

In (12a) adverbs are in hierarchical order as the second evidential *clearly* is an evidential of deduction, which is of a lower layer than the first evidential, *presumably*.

- (12) a. (Medical assistance was requested.) *Presumably* (inference) the tourists *clearly* (deduction) felt sick as the ship rolled at 30 degrees.

The inverted order is unacceptable because deductive *clearly* is expressing a speaker conclusion based on perception, which is then followed by a conclusion based on the speaker's general knowledge.

- (12) b. **Clearly* (deduction) the tourists *presumably* (inference) paled as the ship rolled at 30 degrees.

(v) Inferential and Event perception

The hierarchical order is acceptable and shows a difference between inference expressed by the speaker, which expresses a conclusion based on general knowledge and expectation, and the perception of the event expressed by *visibly*, that is, that the faces are observed to have changed colour.

- (13) a. (Medical assistance was requested.) *Presumably* (inference) the tourists had *visibly* (event perception) paled as the ship rolled at 30 degrees.

The inverted hierarchical order is unacceptable.

- (13) b. (Medical assistance was requested.) **Visibly* (event perception) the tourists *presumably* (inference) paled as the ship rolled at 30 degrees.

(vi) Deduction and event perception

The hierarchical order in (15a) is grammatical:

- (14) a. *Clearly* (deduction) the tourists *visibly* (event perception) paled as the ship rolled at 30 degrees.

The opposite order is ungrammatical as event perception cannot scope over *clearly* (deduction), which is presenting a conclusion based on perception.

- (14) b. **Visibly* (event perception) the tourists *clearly* (deduction) paled as the ship rolled at 30 degrees.

To conclude this section, the examples above show that the pairs of evidential adverbs can co-occur felicitously in a sentence if the ordering in the sentences reflects the hierarchical scope relations between them.

2.5.4 Embedding

Whereas it is reported that in many languages, evidentials do not occur in clausal complements (CCs) (Aikhenvald 2004: 253-255; Schenner 2010: 199), a corpus study (Chapter 4) shows that in English, although they are few in number,¹⁷ they do occur and are studied from an FDG perspective in that same study.

CCs are classified in FDG in terms of the highest layer of items they contain. For instance, a predicate of propositional attitude has a CC that is of the Propositional Content type and will not contain an item of a higher layer. Thus, the prediction, visualized in Table 13, is that there will be a so-called match in which the CC of a complement-taking predicate and the evidential

¹⁷ Clausal complements of certain predicates, such as *manage*, bring along presuppositions which are not compatible with evidential adverbs. Any evidential adverb that a speaker might wish to include in such a sentence may appear in the matrix clause.

adverb in the CC are of the same layer (*) or that the adverb is of a layer lower than the CC (+). Occurrences of instances in the grey-shaded cells in Table 13 would be mismatches and are not expected to occur.

Table 13. *Clausal complement (CC) types classified in FDG (from Hengeveld & Mackenzie 2008: 363; Bastos et al. 2007: 203; Chapter 4, Section 4.2.3.2)*

Type of CC → Type of -ly adverb ↓	Communicated Content (C)	Propositional Content (p)	Episode (ep)	State of Affairs (e)	Configurational Property (f)
Reportative (C)	*				
Inferential (p)	+	*			
Deduction (ep)	+	+	*		
Event perception (e)	+	+	+	*	

Based on the FDG clausal complement types in Table 13, the predictions for the occurrence of evidential adverbs in complement clauses are the following.

- (1) No evidential adverb will be of a higher layer than the complement which contains it.
- (2) As there are no evidential adverbs at the layer of Configurational Property, no matches will occur with complement clauses of this layer.
- (3) There can only be matches between evidential adverbs and complement clauses of the Communicated Content Layer as this layer contains all the other layers of concern.

Prediction (1) mirrors the general FDG prediction for items occurring in a clausal complement. Predictions (2) and (3) arise from prediction (1). Prediction (2) states that as there are no evidential adverbs at a layer lower than the State of Affairs, any CC of a complement-taking predicate lower than the State of Affairs will not contain an evidential adverb. Furthermore, CCs of the highest category of complement-taking predicates, those of the Communicated Content will accommodate any of the four subcategories of evidential adverbs which occur at the same layer or a lower layer.

Predictions (1-3) were tested on 101 clausal complements in declarative sentences extracted from UK newspaper data from the NOW

(News on the Web) corpus (Davies 2010–now). Both the CCs of the complement-taking predicate and the evidential adverbs were categorised into subcategories corresponding to FDG layers. The results in Table 14 show the matches and mismatches that were found.

Table 14. *Matches and Mismatches (Chapter 4, Table 8)*

Type of CC → ↓Type of <i>-ly</i> adverb	Communicated content (C)	Propositional Context (p)	Episode (ep)	State of Affairs (e)	Configurational Property (f ^e)
Reportative (C)	43	6	4	5	2
Inferential (p)	7	6	5		1
Deduction (ep)	2	1	10	6	1
Event perception (e)	1				1
Total 101	53	13	19	11	5

Table 14 supports prediction (3) in that the evidential adverbs occurring in the complements of the Communicated Content type, create matches and no mismatches. The 26 mismatches in columns 3, 4 and 5 of Table 14 did not support prediction 1 whereas the 5 instances in column 6 did not meet prediction (2) as CCs of configurational property predicates did host an evidential adverb.

When the results in the grey cells were further analysed, it turned out that all these evidential adverbs had as anchor the current speaker, who appears to overrule the prediction.¹⁸ The anchor is the person who is responsible for using the evidential adverb to indicate the nature of the knowledge base sourced (Chapter 4, Section 4.2.4). In 6 instances of matches, the anchor was the actor of the matrix clause, but in none of the mismatches was this the case.

2.6 Conclusions

This paper set out to discover more about the occurrence of English evidential adverbs. It has used FDG for its analysis and drawn on other chapters in this

¹⁸ In the following, the current speaker has overruled the predictions. What is unexpected here is that the predicate *see* is of a lower layer (Event perception) than the evidential *allegedly* (reportative) in the complement clause. (Communicated content layer). *Homeowners Nigel and Ceri Ash, 58, say they were woken by the children's screams and ran into the bedroom to see Jenkins allegedly holding the knife above the baby girl.* (15-05-18 GB)

thesis. Before applying tests, it was confirmed that the meanings of English *-ly* evidentials are mirrored in the evidential subcategories of the FDG hierarchical grammatical component. The tests, which were based on the FDG layered hierarchy and its evidential subcategories, have targeted the distribution and behaviour of English evidential adverbs.

First, it was shown that position of the *-ly* adverb in a clause determines its meaning and the classification into an FDG layer. Adverbs such as, *visibly*, could either be an evidential or a manner adverb. The analysis of evidential adverbs with multiple meanings revealed the dependence of the meaning of the evidential adverb on the local context, which was described as chameleon-like behaviour. It was also shown that the reportative type of evidential adverb introduces a non-speaker perspective whereas the other three types: Inferential, Deductive and Event Perception introduce a speaker perspective. It was also demonstrated that, were 2 evidential adverbs to occur in a clause, they would follow the FDG hierarchical ordering of layers with the highest type preceding the lower ones. Finally, it was established that in English, evidential adverbs do occur in the clausal complements of some complement-taking predicates. Constraints on their occurrence in terms of the matching of FDG layers and type of complement-taking predicate were presented. In conclusion, using the FDG hierarchical model, the analyses in this contribution have added to findings on the distribution, scope and semantics of English evidential *-ly* adverbs.

3 English evidential *-ly* adverbs in main clauses: a functional approach¹⁹

3.1 Introduction

Hengeveld and Dall’Aglia Hattner (2015) study the grammatical expression of evidentiality in their Functional Discourse Grammar (FDG) analysis of evidentials used in various native Brazilian languages. Their classification of these grammatical evidentials reveals that if an evidential expresses more than one evidential meaning, these will pertain to contiguous layers in the FDG scopal hierarchy. Hengeveld and Dall’Aglia Hattner (2015) consider this pattern to reflect a possible developmental pathway of the meaning of grammatical evidentials. Although this chapter will not study the diachronic development of adverbs, it will aim to discover whether a similar stepwise pattern holds for lexical English *-ly* evidential adverbs modifying main clauses.

The data used for this research are recent UK news articles, which have been retrieved from the BYU NOW corpus. Although this paper is limited to the analysis of present-day English evidential *-ly* adverbs modifying main clauses, it is, however, hypothesized that these English adverbs will show a stepwise type of categorization pattern in the FDG framework similar to that found by Hengeveld and Dall’Aglia Hattner (2015). To reveal the pattern of categorization, FDG is adopted for the analysis of each of the eleven English evidential *-ly* adverbs.

Section 3.2 discusses the notion of evidentiality, while in Section 3.3, the predictions are presented. The method, which includes diagnostic criteria based on scope relations, appears in Section 3.4. The analysis and summary of the analysis of the selected English evidential adverbs in *-ly* based on the classification into FDG categories is in Section 3.5. Section 3.6 presents the conclusions.

¹⁹ This chapter is a slightly modified version of an article published as: Kemp, Lois. 2018. English Evidential *-ly* Adverbs in Main Clauses: A Functional Approach. *Open Linguistics* 4.743–476. <https://doi.org/10.1515/opli-2018-0036>.

3.2 Evidentiality – definition and FDG approach

There has been and there still is much discussion about the relation between evidentiality and epistemic modality, but this distinction is not the focus of this paper. For a definition of evidentiality, I will draw on De Haan's (2005) summary of his argument as follows: "Evidentiality *asserts* the evidence, while epistemic modality *evaluates* the evidence" (De Haan 2005: 380). However, I will extend De Haan's definition of evidentiality to state: 'evidentiality asserts the existence of evidence, which could either be external to, or in the speech situation, or it could be the result of a thought process.' After a discussion of evidentiality expressed by English *-ly* adverbs in 3.2.1, the focus turns in Section 3.2.2 to evidentiality within FDG, and scope in 3.2.3.

3.2.1 Evidentiality expressed by English *-ly* adverbs

English evidential *-ly* adverbs are elements that show that the speaker/writer is acting as an anchor that affords access to a retrieval point or knowledge base with the information which is found under the scope of the evidential expression. The FDG evidential hierarchy, discussed in 3.2.3, reflects the different types of knowledge base: ones external to the speech situation, existing personal knowledge, and directly available external stimuli. The anchor is the speaker/writer²⁰ of the text, who acts as the point of access to a knowledge base. The notion of anchor or intermediary seems to be present in Lazard's (2001) analysis when he states that the role of evidential forms is "to point to the speaker's becoming aware of the facts [...] the speaker is somehow split into two persons, the one speaking and the one who has heard, inferred, or perceived" Lazard (2001: 362). Haegeman (2006: 1654) refers to speaker anchoring and speaker-oriented adverbials, such as the evidential adverb *apparently*. Ernst (2009: 498) also mentions evidential *obviously* and *clearly* in sentential usage as speaker-oriented adverbs. It is expected that the evidential *-ly* adverbs in main clauses will be anchored to the speaker/writer and producer of the text, who may, in some cases, be the subject of the main clause in which the *-ly* adverb occurs. To illustrate the notion anchor, consider the use of *apparently* as a reportative evidential in (1). The use of *according to* cues the reader that the information about new models has been gleaned from a source elsewhere, which forms the knowledge base. The intermediary

²⁰ This paper will use the term 'speaker' or 'writer' to refer to the producer of the text discussed.

between the knowledge base and the receiver of the information is the anchor, who is the writer of the text.

- (1) The countdown continues to the iPhone XI, or the iPhone 9, or whatever Apple is calling this year's devices, and the latest rumor to reach us involves the technical configuration of one or more of the new handsets: specifically, that a dual-SIM might be involved. That's according to sources speaking to the 21st Century Business Herald in China. *Apparently* models for some countries will use a standard dual-SIM tray, while others will incorporate a standard SIM and the bespoke Apple SIM you can already find in some iPad Pro models. At this point it's not clear which of the three 2018 iPhones will get the tech. (GB 18-06-30)

The evidential expression shows that the knowledge base comprises information that is already available to the speaker at the time of production, and is made explicit under the scope of the evidential adverb in the present text. Although it is old information in the sense of being known to the speaker, the proposition that the evidential adverb modifies may well concern a future time such as in (2), in which the knowledge about the future situation was acquired before the moment of speaking.

- (2) Apparently he will arrive tomorrow. (Author's example)

The notion of information drawn from elsewhere is evident in the description of the general findings of Aksu and Slobin's (1986) work on the Turkish evidential suffix *-miş* which is said to "represent intrusions into consciousness from psychologically more distant, less directly apprehended worlds of thought and experience" (Aksu & Slobin 1986: 164).

In the definition of the role of evidential *-ly* adverbs used in this chapter, an *-ly* adverb scopes over a main clause. It indicates to the receiver that existing information within the scope of the evidential *-ly* adverb has been retrieved from a knowledge base. In addition, the receiver understands that there is an intermediary, the anchor that affords access to the knowledge base. Whether, when placed in different contexts, the various English evidential *-ly* adverbs have different meanings and draw on different knowledge bases will be investigated in this paper. The various types of knowledge base are reflected in the FDG description of evidentiality as discussed in 3.2.2.

3.2.2 Categories of Evidentiality in FDG

The FDG hierarchy is divided into different Levels and Layers. Table 1, which has been abstracted from Hengeveld and Dall’Aglia Hattner’s Figure 1 (2015: 482), shows that the Categories of Evidentiality (in italics) fall within the two highest FDG Levels, that is, the Interpersonal (or pragmatic) Level, and the Representational (or semantic) Level. Evidentials at the Interpersonal Level involve pragmatic aspects of the interaction between speakers and hearers, while evidential expressions at the Representational Level reflect a more introspective view of the speaker in terms of thought processes and the speaker’s own observation regarding direct perception. The hierarchy in Table 1 reflects an increase in scope between the layers within the Representational Level, and between the Representational Level and the Interpersonal Level, where the signs \vee and $>$ indicate increase in scope.

Table 1: *Scope relations between evidential categories* (abstracted from Hengeveld & Dall’Aglia Hattner 2015: 482)

INTERPERSONAL LEVEL (IL)								
Move	>	Discourse Act	>	Illocution	>	Communicated content	Ascriptive Subact	Referent Subact
				<i>reportative</i>				
\vee								
REPRESENTATIONAL LEVEL								
Propositional Content	>	Episode	>	State of Affairs	>	Configurational Property	>	Lexical Property
<i>inference</i>		<i>deduction</i>		<i>event perception</i>				

Table 2 shows that, although it is not evident from the labelling, inference is involved not only in the modifier of the FDG Layer of the Propositional Content, but also at the Layer of the Episode. In addition, perception is involved at the Layer of the Episode and the Layer of State of Affairs. *-ly* adverbs expressing evidentiality can act as Modifiers at these three Layers.

Table 2. *Overlap of perception and inference within the Representational Level*

<i>inference</i>	<i>deduction</i>	<i>event perception</i>
involves inference		
	involves perception	

To clarify the FDG categories of deduction and of inference, these FDG evidential categories at the Representational Level will be related to analyses presented by Aikhenvald (2004), Willett (1988) and Marín-Arrese (2017). The two FDG evidential categories reflect Aikhenvald's (2004: 3) mention of "two types of inference – the one based on visible result, and the other based on reasoning, general knowledge and, ultimately, conjecture." The former relates to the FDG category of evidentiality of deduction, and the latter type is labelled 'inference' in FDG. The FDG categories of inference and deduction can also be related to Willett's (1988: 57) observation drawn from his data of grammatical evidentiality, "inferring evidence may be specifically marked as involving either observable evidence (results) or a mental construct only (reasoning)" (Willett 1988: 57). The former is reflected in FDG's deduction, while the latter is found in the FDG evidential category of inference.

Marín-Arrese (2017) adopts a Functional-Cognitive analysis with an overarching category label 'indirect-inferential', which follows Boye (2012). The sub-headings (a-c) below have been taken from Marín-Arrese's (2017: 199) list of examples of texts with English evidential adverbs.

- (a) Indirect-Inferential, Perceptual-based: cognitive processes based on external sensory evidence.
- (b) Indirect-Inferential, Conceptual based: cognitive processes based on knowledge or information acquired externally.
- (c) Indirect-Inferential, Report-based: cognitive processes based on documentary evident, oral and written reports.

In contrast, FDG uses a functional approach in defining its evidential categories. The FDG evidential label 'inference' in the present paper refers to a narrow category of reasoning based on previously acquired knowledge comparable to (b) above, while the FDG 'deduction' is reflected in Marín-Arrese's category (a). The category (c) is part of the FDG reportativity at the Interpersonal Level.

We now turn to the FDG evidential category of reportativity at the Interpersonal Level. Hengeveld and Mackenzie (2008) state, “in general, then, at the Interpersonal Level units are analysed in terms of their communicative function” (Hengeveld & Mackenzie 2008: 15). The layer that is relevant in this paper is the Communicated Content, where the information that the speaker wishes to convey is represented. The information can be modified by a lexical item that has scope over the information reported, which does not originate with the speaker/writer her/himself. As seen in the analysis of *apparently* in (1), the reportative relays information that is accessed from a knowledge base before the time of speaking/writing. In the case of reportativity, the speaker/writer is the anchor or intermediary in providing content, but also the creator of the speech and the one who chooses to include the information from the knowledge base into the present discourse at speech time. Keizer (2015) and Hengeveld and Dall’Aglia Hattner (2015) view reportatives as being different in nature from evidential expressions found at the next lower level, the Representational Level, which concern semantic categories. In anticipation of the diagnostic criteria of scope relations in 3.4.2, it should be noted that there are also non-evidential modifiers at the Communicated Content Layer of the Interpersonal Level, which can express speaker attitude to the communicated content.

The second FDG level, the Representational Level involves FDG layers, which reflect the ontological aspects of Lyons’ (1977) first, second, and third order entities (Hengeveld and Mackenzie 2008: 131). Briefly, first order entities are “further ascribable animate and non-animate entities observable in space” (Lyons 1977: 443). Second order entities, involve “events, processes, states-of-affairs which are located in time and [...] are said to occur or take place rather than to exist” (Lyons 1977: 443). These are found at the Layer of State of Affairs (SoA). In contrast, there is no ‘anchoring’ in space or time for third order entities, which are mental constructs (Lyons 1977: 445) found at the Layer of the Propositional Content (Hengeveld & Mackenzie 2008: 131). Such mental constructs can evolve through inference.

In the evidentials at the Layer of the Propositional Content on the Representational Level, there will be a reflection of knowledge that the speaker already holds at the time of speech without recourse to relaying information about an (immediate) external scene. Speaker knowledge will form the knowledge base for inferential evidentials. Hengeveld and Dall’Aglia Hattner (2015) state, “an utterance characterized by an inferential operator thus elaborates on that existing and stored knowledge rather than reacts to external perceptual stimuli” (Hengeveld & Dall’Aglia Hattner

2015: 485). Again, in anticipation of the diagnostic criteria for scope relations in 3.4.2, it should be mentioned that non-evidential subjective modality is also categorized at the layer of Propositional Content.

The FDG category of deduction is found at the Layer of the Episode, which “may be defined as a semantically coherent set of SoAs [States of Affairs]” (Keizer & Van Staden 2009: 806). The FDG evidential category of deduction involves perception, which triggers the reasoning process. That which is perceived is the knowledge base and the subject of the inferencing process. With regard to deduction, Hengeveld and Dall’Aglio Hattner (2015: 486) write: “the speaker deduces the occurrence of one state-of-affairs, the deduced one, on the basis of another state-of-affairs, the perceived one”.

Evidential adverbs in *-ly* used with event perception at the Layer of State of Affairs will express a spatial and temporal closeness allowing perception. The speaker is the observer and the information is first-hand as the knowledge base is accessed through sensory perception just prior to or during speech time. With respect to the categories of event perception and that of deduction, we can refer to Guimier (1986), who states, “la plupart du temps, l’adverbe n’évoque pas directement le mode de perception mais une déduction que l’énonciature opère à partir d’une réalité perçue” (Guimier 1986: 255).

3.2.3 Scope

The FDG scale of scope, as touched on in 3.2.2 and Chapter 2, and indicated in Table 1, represents the reaches of scope that will be used here to determine the meaning of an evidential *-ly* adverb and the FDG category in which the adverb would fall. The hierarchy in Table 3 reflects Hengeveld and Dall’Aglio Hattner’s (2015: 492) table of scope relations and shows the scope of a category in relation to other categories, which is then reflected in word-order. Every step up in the hierarchy leads to wider scope. It should be pointed out that Nuyts (2006: 19, 2017: 66), also presents a hierarchy of semantic scope of time, aspect, and modality categories in his qualificational categories. However, the highest element in Nuyts’ hierarchy is (inferential) evidentiality followed by and scoping over epistemic modality. In contrast, FDG predicts that epistemic modality at the Layer of the Propositional Content can scope over evidentials of deduction and those of event perception.

Using elements from adjacent categories, Table 3 shows FDG scope relations of evidentials (in italics) with non-evidential adverbials and elements of time from adjacent categories (underlined). The combination of features in Table 3 should be read horizontally to show a representation of scope relations between an evidential adverb and a feature that typifies the FDG hierarchy

layer that is one higher (1-4), or one lower (5-8) than the position of the evidential adverb. In other words, in rows 1-4, an adjacent higher non-evidential adverb or time element will scope over the evidential adverb. At the Interpersonal Level, the reportative can fall within the scope of adverbials at the Layer of Illocution, which is not considered to include evidentials. In rows 5-8, an adjacent higher evidential adverb will scope over a non-evidential adverbial or time element to its right. As to scope relations and time elements, an evidential of inference can scope over absolute time, whereas an evidential of deduction can scope over relative time. An evidential of inference can also scope over relative time but being at two layers distance, and thus not in an adjacent category, this is not relevant for the analysis.

Table 3. *Scope relations of evidential -ly adverbs with adjacent categories*, (abstracted from Hengeveld and Dall’Aglio Hattner 2015: 492).

INTERPERSONAL LEVEL			REPRESENTATIONAL LEVEL			
	Illocution (F)	Communicated Content (C)	Propositional Content (p)	Episode (ep)	State of Affairs (e)	Configurational Property (f ^o)
1	<u>Illocutionary adverb</u>	<i>Reportative</i>				
2		<u>Speaker Attitude</u>	<i>Inference</i>			
3			<u>Subjective modality</u>	<i>Deduction</i>		
4				<u>Absolute Time</u>	<i>Event perception</i>	
5		<i>Reportative</i>	<u>Subjective modality</u>			
6			<i>Inference</i>	<u>Absolute Time</u>		
7				<i>Deduction</i>	<u>Relative Time</u>	
8					<i>Event perception</i>	<u>Manner/Degree</u>

It should be noted that the categorization of adverbs is not static. As Ramat and Ricca (1998) point out, “the semantic development usually goes from the world being talked about to the views on that world uttered by the speaker in her/his act of speaking. The general trend for sentence adverbs is thus to step up along the hierarchical scale” (Ramat & Ricca 1998: 243).

Additionally, this can involve changes in scope relations, which exist between the Layers and within the Levels as shown in Table 1. This supports the FDG claim (Hengeveld & Dall’Aglia Hatthner 2015: 496) that meaning change in evidentials involves development along the horizontal scopal pathway, in the sense that expressions of event perception will develop into expressions of deduction, and these, in turn, into expressions of inference. FDG also holds that any of these three categories may develop into an expression of reportativity following the vertical scopal pathway shown in Table 1. The presence of evidential *-ly* adverbs in adjacent categories at the Representational Level might well be an indication of the incrementally increasing scope of English evidential *-ly* adverbs. However, this paper will only study evidential *-ly* adverbs synchronically and therefore not discuss their development, or their possible increase in scope through time.

3.3 Predictions

The predictions in this paper will be based on the FDG theory that states, “grammatical elements may acquire new meanings (i) by increasing their scope layer by layer within the same level, (ii) by moving up from the Representational to the Interpersonal Level” (Hengeveld & Dall’Aglia Hatthner 2015: 496). Accordingly, here, it is predicted that present-day English evidential *-ly* adverbs, which form lexical evidential expressions, will fall into adjacent scope categories at the Representational Level, and that some evidential *-ly* adverbs will be classified at the Interpersonal and the Representational Level without further contiguity restrictions. Paraphrasing and diagnostic criteria of scope relations (see Sections 3.4.2 and 3.4.3) will be applied to classify the *-ly* adverbs into FDG categories and to test the prediction regarding the FDG framework.

3.4 Method

For the analysis (Section 3.5), adverbs were selected from Group (i) and (ii) of Quirk et al.’s (1985: 620) ‘Content disjuncts’, which express conviction and appeal to general perception. Of the evidential adverbs identified from these groups, the ten most frequent in current usage according to the OED Online (Oxford English Dictionary) and the Collins Online dictionary were selected. *Visibly* was added as an adverb that may be presumed to reflect the use of the anchor’s sense of direct perception, but can, like clearly, act as a manner adverb.

In the present study, contextual factors are kept more or less constant as the data are UK online news articles written for the general public. The

examples of the occurrence of evidential *-ly* adverbs, which are listed according to date of appearance, were retrieved from the UK collection in the NOW corpus (GB NOW, Davies 2010–now). At the time of writing, the latest recorded article appeared on 30 June 2018. The corpus comprises various types of UK newspapers, but is not exhaustive.

3.4.1 Selection of examples

One thousand examples of each of the 11 adverbs were copied from the NOW corpus to Excel sheets. Out of those, examples of evidential *-ly* adverb occurring in a main clause were selected using the paraphrasing method (see 3.4.2). Examples were viewed on the newspaper websites, and those with a brief accessible context were chosen for use in this paper. The diagnostic criteria of scope relations were then applied to check the classification decision made by paraphrasing. These results were collated in a table to indicate which adverbs have multiple meanings, and to judge how the adverbs were distributed in the FDG framework.

Finally, the results of an analysis of the frequency and the distribution of the meanings of occurrences in each FDG category were tabulated. These figures were based on the randomization in Excel of the thousand examples of each adverb extracted from the GB NOW corpus during the period preceding 30 June 2018. Out of these, the first 50 items with an evidential *-ly* adverb that modified a main clause that were encountered were selected. These adverbs were classified into evidential subcategories, and the results placed in the Table 13.

3.4.2 Paraphrasing

The diagnostic paraphrasing in Table 4 will be employed for the analysis of the examples in this paper. The use of paraphrasing is not intended to suggest that an underlying structure is being made explicit. Paraphrasing is used to identify evidential *-ly* adverbs at the Interpersonal Level, and to classify *-ly* adverbs at the various Layers of the Representational Level.

Paraphrasing can also be used to distinguish cases of evidential *-ly* adverbs expressing perception such as *visibly* and some cases of *clearly*, from cases in which they are manner adverbs. Examples of the two usages are (i) *S/he clearly drew the design, it is her/his style,* and manner adverb in (ii) *S/he drew the design clearly with a lot of detail.* Nuyts (2009: 142) suggests using the diagnostic paraphrase: “it is EVIDENTIAL ADVERB the case that.” This can be applied to evidential and manner adverbs of perception. ‘It is clearly the case that s/he drew the design’ can express (i) but not (ii). This shows that the

paraphrasing works for evidential adverbs but will not work for manner adverbs.

The paraphrasing used in this paper to classify evidential adverbs in FDG subcategories is found in Table 4. The wording of the paraphrasing is based on paraphrasing given by Plungian (2001: 354), and Guimier (1986: 253-255). The first column provides the FDG category to which the paraphrasing refers. The third column provides a description of the subcategory, which is not used in the paraphrasing.

Table 4. *Paraphrasing used in this paper*

	Paraphrasing	Description
Interpersonal Level		
Reportative	<i>It has been reported/said that ...</i>	Information external to the existing speech situation
Representational Level		
Inference	<i>From my present knowledge, I reckon that ...</i>	Speaker internal knowledge base. Computing based on existing knowledge
Deduction	<i>From what I observe (saw, heard, smelt, felt), I deduce that ...</i>	External knowledge base used in reasoning: interpreting observation
Event Perception	<i>What I observed (saw/heard/ smelt/felt) was that ...</i>	Assertion reflecting observations

3.4.3 Diagnostic criteria of scope relations

Table 5 uses constructed sentences to illustrate the scope relations described in Table 3 in Section 3.2.3. In each row, an evidential adverb (in italics) representing an FDG evidential category combines with a suitable adverbial or time element (underlined). Rows 1-4 in Table 5 show the underlined adverbial or element of time that scopes over the evidential adverb found in an adjacent lower layer, while rows 5-8 illustrate evidential -ly adverbs scoping over a modifier or time expression from an adjacent lower layer.

Table 5. *Sentences exemplifying scope relations within the FDG hierarchy*

1.	<u>In all honesty</u> he was <i>reportedly</i> going to emigrate.	<u>Illocutionary adverbial</u> + <u>reportative</u>
2.	<u>Unfortunately</u> he has <i>presumably</i> decided to leave.	<u>Speaker attitude</u> + <u>inference</u>
3.	<u>Certainly</u> , he was <i>perceivably</i> not feeling too well.	<u>subjective modality</u> + <u>deduction</u>
4.	<u>Yesterday</u> he was <i>visibly injured</i> .	<u>absolute time</u> + <u>event perception</u>
5.	<i>Reportedly</i> he is <u>probably</u> coming by boat.	<u>reportative</u> + <u>subjective modality</u>
6.	<i>Presumably</i> he <u>will</u> arrive within an hour.	<u>inference</u> + <u>absolute time</u>
7.	(Viewing a hand-written letter) <i>Clearly</i> John <u>has written</u> the letter.	<u>deduction</u> + <u>relative time</u>
8.	He is <i>visibly</i> chewing his food <u>well</u> .	<u>event perception</u> + <u>manner/degree</u>

3.5 FDG analysis of the evidential adverbs in *-ly*

As it is the context that determines the meaning of the evidential *-ly* adverb, the adverbs (in italics) are presented in their original texts. The relevant passage in the text is underlined. In order to investigate the meaning(s) of the eleven evidential *-ly* adverbs that have been selected, it is necessary to discuss the analysis of each of them. In applying the diagnostic methods, the aim is to express the meaning of the evidential *-ly* adverb as it is found in the news text. The diagnostics of paraphrasing and criteria of scope relations refer to Table 4 and Table 5.

3.5.1 *Reportedly, purportedly, allegedly and supposedly*

Reportedly, purportedly, allegedly and supposedly are reportative evidentials at the layer of the Communicated Content, at the FDG Interpersonal Level. The writer, who is the anchor, has gleaned the information from a knowledge base that is external to the speech situation, and provides the corresponding information as part of the of her/his argument. In the case of (3), exemplifying *reportedly*, this argument is about the continuation of the Union, the UK. By using *reportedly*, the writer does not present the information as a generally shared point of history, or as a hard fact.

- (3) Put bluntly, Northern Ireland is different. It exists on the political, economic and cultural periphery of the UK, rather than being an integral component of Britain’s understanding of its own self-interest or self-image. Churchill and Thatcher both *reportedly* considered dumping Northern Ireland at moments of political expediency. Churchill contemplated trading it for the support of the Irish Free State in World War II and made a number of overtures on this basis to the Irish taoiseach of the time, Eamon de Valera. In 1983 meanwhile, Margaret Thatcher asked the then Northern Ireland secretary James Prior if he thought her government should prepare for a “tactical withdrawal” from Northern Ireland. (18-06-24 GB)

In (4), *purportedly* modifies information showing that it comes from a knowledge base with information about the intentions of the planned sinicisation. Again, the anchor, is the writer of the text.

- (4) The objective of “sinicising” religions, including the Chinese Catholic Church, was declared in 2015 after President Xi Jinping took part in a meeting of the United Front - a body answerable to the Communist Party Central Committee that has new powers to impose state control on religions. The “sinicisation” process will *purportedly* increase assimilation of Chinese culture into religious expression, eliminating “foreign influences”. Independence “from foreign influence” implies acting without the mandate of the Holy See, and submission to the Communist Party. No details of the Five-Year Outline were mentioned in a 22 May news letter on the CCPA-BCCCC website. (18-06-01 GB)

Allegedly in (5) shows that the anchor and writer is relying on an external knowledge base concerning the content of the will with conclusions drawn by others.

- (5) A family are feuding over the legitimacy of a woman’s will - because it’s written on post-it notes... The 59-year-old’s last will was signed but not witnessed is now the subject of a Supreme Court case, with claims that another will may have been destroyed. It is alleged that Ms Louie revoked all wills and made the notes her final will. She *allegedly* wrote that everything she owns will go to her mother, Janice Louie, and sister Ms Lee. She then reaffirms her decision by writing ‘mum and sister need my total estate’. ‘I know I don’t have a witness, but this is my

signature Kim K Louie for my Will dated 25/12/2013,' Ms Louie wrote. (18-06-30 GB)

The case of *supposedly* exemplified in (6) has similar interpersonal properties. Here, information from the knowledge base which is within the scope of the evidential includes a supposed quote.

- (6) When Leslie Warman, a director of another Green company, spoke out of turn in a tense business meeting, he's alleged to have found himself on the receiving end of death threats. 'If you don't shut your f*****g mouth, I'll get my friends from south of the river to come for you and your family,' Green *supposedly* declared. (18-06-25 GB)

To reveal their interpersonal nature, the same diagnostics from Section 4 above can be applied to these four adverbs. The first diagnostic consists of paraphrasing the content of the adverb by means of the matrix clause *it has been reported that* (3a)-(6a). The second one uses scope criteria which show that these four adverbs modifying the Communicated Content can all be preceded by an adverbial from the next higher FDG layer, that is, the illocutionary adverbial *in all honesty*, and they can be followed by an adverbial from the next lower FDG category, *possibly* and *might* expressing subjective modality. These scope relations will be given in the variants (3b)-(6b) for the higher scope adverbial and in the variants (3c)-(6c) for the lower scope. The evidential adverbs are given in italics, the non-evidential adverbs are underlined.

- (3) a. *It has been reported/said that* Churchill and Thatcher both considered dumping Northern Ireland at moments of political expediency.
 b. In all honesty, Churchill and Thatcher both *reportedly* considered dumping Northern Ireland at moments of politica expediency.
 c. Churchill and Thatcher both *reportedly* considered possibly dumping Northern Ireland at moments of political expediency.
- (4) a. *It has been reported/said that* the "sinicisation" process will increase assimilation of Chinese culture into religious expression, eliminating "foreign influences."
 b. In all honesty, the "sinicisation" process will *purportedly* increase assimilation of Chinese culture into religious expression, eliminating "foreign influences".

- c. The “sinicisation” process will *purportedly possibly* increase assimilation of Chinese culture into religious expression, eliminating “foreign influences”.
- (5) a. *It has been reported/said that* she wrote that everything she owns will go to her mother, Janice Louie and sister Ms Lee.
- b. In all honesty, she *allegedly* wrote that everything she owns will go to her mother, Janice Louie and sister Ms Lee.
- c. She *allegedly possibly* wrote that everything she owns will go to her mother, Janice Louie and sister Ms Lee.

In the case of (6), the tests work more easily if we revert the order of the supposed literal quote and the sentence containing the adverb:

- (6) a. *It has been reported that* Green declared: ‘[...]’
- b. In all honesty, Green *supposedly* declared: ‘[...]’

Moreover, it turns out to be more appropriate in this context to use, instead of the adverb *possibly*, a verbal expression of subjective modality:

- (6) c. Green *supposedly might* have declared: ‘[...]’

Having thus shown the analysis of these four adverbs as reportative, interpersonal adverbs that modify the Communicated Content, I summarize the results of this analysis in Table 6.

Table 6. *Summary of the analysis of reportedly, purportedly, allegedly and supposedly*

LEVELS	INTERPERSONAL	REPRESENTATIONAL		
<i>Layers</i>	<i>Communicated Content</i>	<i>Propositional Content</i>	<i>Episode</i>	<i>State of Affairs</i>
Evidential Category	Reportative	Inference	Deduction	Event Perception
<i>apparently</i>	+			
<i>reportedly</i>	+			
<i>purportedly</i>	+			
<i>supposedly</i>	+			

3.5.2 Apparently

Apparently is classified into three different FDG evidential categories: reportative, inference, and deduction. These will be discussed in turn.

In (7), *apparently* is a reportative evidential at the FDG Layer of the Communicated Content at the Interpersonal Level. (7) is an extract from the longer text in (1) of Section 3.2.1. *That's according to* in line 2 of (7), shows that the writer has accessed the news modified by *apparently* from elsewhere, a knowledge base to which that the writer and anchor has access.

- (7) That's according to sources speaking to the 21st Century Business Herald in China. *Apparently* models for some countries will use a standard dual-SIM tray, while others will incorporate a standard SIM and the bespoke Apple SIM you can already find in some iPad Pro models. (18-06-30 GB)

Apparently, in text (8) is judged to be an evidential of inference as the writer is viewing information that s/he presently holds from a seemingly new perspective. The inference drawn is the writer's, and the writer is the anchor to the knowledge base with the inference.

- (8) In January, the Government announced that it had achieved its pledge to make superfast broadband of 24 Mbps available to 95 per cent of the country. Looked at another way, Whitehall hit its target while leaving 5 per cent of the nation without usable broadband. That would be unacceptable for, say, a water provider. If 5 per cent of the population — approximately 3.3 million people — died of thirst, there would be an outcry. But the Government can *apparently* leave just as many people without adequate internet and it's a triumph. (18-06-30 GB)

In (9), *apparently* is a case of deduction at the Layer of the Episode on the Representational Level. The writer and anchor has drawn a conclusion about the nature of his browser on the basis of perception of its actions.

- (9) 74 min: Switzerland have found a second wind! Suddenly they've got Serbia backpedaling. This is intriguingly poised. "My browser is *apparently* a Switzerland fan and spent a few minutes after the equaliser having a melt down and repeating the goal post again and again until I got bored and hit F5. God help me if they lose. Though maybe I'll just have to use it as a reason to go home early. (18-06-22 GB)

The paraphrasing of the reportative *apparently* in (7) is presented in (7a) using: *it has been reported that*. In (7b) the adverbial of higher scope than *apparently* is expressed by illocutionary adverbial *in all honesty*, while in (7c) the adverbial *probably* of lower scope adverbial than *apparently*.

- (7) a. *It has been reported that* models for some countries will use a standard dual-SIM tray.
 b. In all honesty, *apparently* models for some countries will use a standard dual-SIM tray.
 c. *Apparently* models for some countries will probably use a standard dual-SIM tray.

The paraphrasing of inferential *apparently* presented in (8) as *from my present knowledge I reckon that* is given in (8a). The scope relation represented in (8b) is the higher scope adverbial of speaker attitude, *unfortunately* at the level of communicated content. (8c) represents a lower level time element: absolute time, *next year*.

- (8) a. *From my present knowledge, I reckon that* the Government can leave just as many people without adequate internet and it's a triumph.
 b. Unfortunately, the Government can *apparently* leave just as many people without adequate internet and it's a triumph.
 c. The Government can *apparently* leave just as many people without adequate internet next year and it will be a triumph.

The paraphrase of (9) in (9a) shows that deduction involves observation and conclusion. The higher scope relation here is *certainly* which expresses subjective modality, while the lower scope relation is relative time expressed by *has become*.

- (9) a. *From what I observe*, my browser is a Switzerland fan.
 b. Certainly, my browser is *apparently* a Switzerland fan
 c. My browser *apparently* has become a Switzerland fan.

In Table 7, I show the results of the analysis of *apparently* which appears in three different FDG categories.

Table 7. *Summary of the analysis of apparently*

LEVELS	INTERPERSONAL	REPRESENTATIONAL		
<i>Layers</i>	<i>Communicated Content</i>	<i>Propositional Content</i>	<i>Episode</i>	<i>State of Affairs</i>
Evidential Category	Reportative	Inference	Deduction	Event Perception
<i>apparently</i>	+	+	+	

3.5.3 Evidently

Evidently is analysed as a reportative evidential adverb, while in a different context it is an evidential adverb of inference. (10) illustrates the former, where the writer and anchor is relaying historical information from an external knowledge base. Therefore, *evidently* in (10) is a reportative at the Layer of Communicated Content on the Interpersonal Level.

- (10) The most repeated “reason” for a wholesale ban on lilac in the house was too close a deep association between these springtime delights and funerals. *Evidently*, the powerful aroma was used to line coffins and so mask the smell of death. Hence an automatic link for many with grief. (18-05-19 GB)

The second analysis of *evidently* is illustrated in (11), where the writer and anchor is drawing her own conclusion about the reported researcher’s information. The writer’s existing knowledge seems to be that painkillers are used to treat symptoms of a hangover, which is used in drawing the conclusion. *Evidently* is an evidential of inference with the writer as anchor giving access to her own conclusion.

- (11) Being rejected or treated unfairly activates the dACC just as a headache would. Eisenberger, along with her collaborator Nathan DeWall, was able to show that taking a thousand milligrams of Tylenol every day for three weeks resulted in the experience of significantly less social pain compared to a control group that took a placebo. Taking a painkiller had made the participants less sensitive to everyday rejection experiences. *Evidently*, you can treat your heartache and your hangover at the same time. (Why no one is marketing ibuprofen for this purpose yet, I can’t imagine.) (18-06-27 GB)

The paraphrasing of reportative (10) is shown in (10a) with *It has been reported that*. In (10b), the illocutionary adverbial *in all honesty* represents higher scope, while the epistemic adverbial *probably*, expressing subject modality has lower scope than reportative *evidently* (10c).

- (10) a. *It has been reported that* the powerful aroma was used to line coffins and so mask the smell of death.
 b. In all honesty, the powerful aroma was *evidently* used to line coffins and so mask the smell of death.
 c. *Evidently*, the powerful aroma was probably used to line coffins and so mask the smell of death.

(11a) shows the paraphrase of inferential *evidently* as used in (11) by adding *From my present knowledge, I reckon that*. In (11b) the adverb of speaker attitude *luckily* has higher scope than *evidently*. *In the future* in (11c) expresses absolute time and is of lower scope than the evidential adverb.

- (11) a. *From my present knowledge, I reckon that* you can treat your heartache and your hangover at the same time
 b. Luckily, *evidently*, you can treat your heartache and your hangover at the same time.
 c. *Evidently*, in the future you can treat your heartache and your hangover at the same time.

The analysis of *evidently* as a reportative and an inferential evidential adverb is found in Table 8.

Table 8. *Summary of the analysis of evidently*

LEVELS	INTERPERSONAL	REPRESENTATIONAL		
<i>Layers</i>	<i>Communicated Content</i>	<i>Propositional Content</i>	<i>Episode</i>	<i>State of Affairs</i>
Evidential Category	Reportative	Inference	Deduction	Event Perception
<i>evidently</i>	+	+		

3.5.4 Presumably

In (12), *presumably* is an evidential adverb of inference at the Layer of the Propositional Content on the Representational Level. The speaker Mick Rix

is the anchor of *presumably* and is drawing his own conclusion about what Boris Johnson may have thought.

- (12) The Foreign Secretary face widespread derision after he chose to be out of the country on official business on Monday despite his long-standing opposition to a third runway... Mick Rix, national officer of the GMB union, said: "Boris Johnson *presumably* thinks he's going to get a better reception in Kabul than he would in Westminster today." "As the Foreign Secretary flees the country having abused British industry and broken yet another promise, this time on Heathrow, we're standing up for quality, skilled jobs and backing expansion today." (18-06-25 GB)

The paraphrase in (12a) uses *From my present knowledge, I reckon that* in showing that *presumably* is an evidential of inference. The speaker attitude adverb *unfortunately* in (12b) has higher scope than *presumably*, while *tomorrow* in (12c) expresses absolute time and has lower scope.

- (12) a. From my present knowledge, I reckon that Boris Johnson thinks he's going to get a better reception in Kabul than he would in Westminster today.
 b. Unfortunately, Boris Johnson *presumably* thinks he's going to get a better reception in Kabul than he would in Westminster today.
 c. Boris Johnson *presumably* thinks he's going to get a better reception in Kabul tomorrow than he would in Westminster today.

The results of the analysis of *presumably* are presented in Table 9.

Table 9. *Summary of the analysis of presumably*

LEVELS	INTERPERSONAL	REPRESENTATIONAL		
<i>Layers</i>	<i>Communicated Content</i>	<i>Propositional Content</i>	<i>Episode</i>	<i>State of Affairs</i>
Evidential Category	Reportative	Inference	Deduction	Event Perception
<i>presumably</i>		+		

3.5.5 Obviously, seemingly and clearly

Obviously, *seemingly* and *clearly* are analysed as evidential adverbs of inference and in a different context as adverbs of deduction. *Obviously* in (13),

seemingly in (14) and *clearly* in (15) are inferential evidential adverbs at the Layer of Propositional Content at the Representational Level, while in (16), (17) and (18), they are evidential adverbs of deduction at the Layer of the Episode of the Representational Level. In addition, here *clearly* in (15) and (18) will be paraphrased (see 3.4.2) to support the analysis that *clearly* is an evidential adverb and not an adverb of manner.

In (13) Arbiter, who is the anchor for the evidential adverb *obviously*, presents his conclusion about the Queen's situation. The conclusion appears to be based on existing information from his former job at the Palace.

- (13) 'Poorly' Queen pulls out of ceremony: After nine appearances in ten days, little wonder she's so tired! Dickie Arbiter, a former Buckingham Palace press secretary, said: 'To have had to back off from a ceremony at St Paul's Cathedral would really upset her but *obviously* she's got a summer cold and she's erring on the side of caution.' 'She is the only one who can say if she's doing too much or not, but she is certainly very good at pacing herself. (18-06-29 GB)

In (14), the writer and anchor is drawing a conclusion on the basis of his knowledge about Trump's communication before the expulsion of the diplomats.

- (14) One must assume that many or most of the Russian diplomats designated for expulsion are intelligence operatives. Thus the cumulative impact on Russia's overseas intelligence activities could be considerable. Only a few days ago Mr Trump was *seemingly* setting aside the Salisbury attack and talking about a new summit with Mr Putin. Will this now go ahead? And if so when? (18-03-26 GB)

In (15), the anchor is the speaker/writer of the article who is drawing the conclusion about Trump's behaviour. The classification of *clearly* as an evidential and not an adverbial of manner can be supported by the paraphrasing (see 3.4.2), 'It is clearly the case that all that yelling and threatening has worked.' which expresses evidential meaning.

- (15) Who would have thought it? President Donald Trump, possibly the most bellicose ever occupant of the White House, has pulled off the impossible and produced a peace deal with North Korea. He has

certainly redefined the word “diplomacy” but all that yelling and threatening has *clearly* worked (18-06-12 GB)

In (13a), (14a) and (15a), *from my present knowledge, I reckon that* is used to paraphrase the examples with evidential adverbs of inference: *obviously*, *seemingly* and *clearly*. Adverbs expressing speaker attitude, *unfortunately* and *strangely*, which have higher scope than *obviously*, *seemingly* and *clearly* as evidential adverbs of inference were inserted into (13b) (14b) and (15b). The adverbial of absolute time, *at the moment*, which has lower scope than *obviously* and *clearly* was added in (13c) and (15c). In (14c), the presence of *a few days ago* in the news text is underlined as being an adverbial of absolute time.

- (13) a. *From my present knowledge, I reckon that* she’s got a summer cold and she’s erring on the side of caution.
 b. Unfortunately she’s *obviously* got a summer cold and she’s erring on the side of caution
 c. *Obviously* she’s got a summer cold and she’s erring on the side of caution at the moment.
- (14) a. *Based on my present knowledge*, only a few days ago Mr Trump was setting aside the Salisbury attack.
 b. Strangely, only a few days ago Mr Trump was *seemingly* setting aside the Salisbury attack.
 c. A few days ago Mr Trump was *seemingly* setting aside the Salisbury attack.
- (15) a. *From my present knowledge, I reckon that* all that yelling and threatening has worked
 b. Strangely, all that yelling and threatening has *clearly* worked.
 c. All that yelling and threatening has *clearly* worked at the moment.

Obviously in (16), *seemingly* in (17) and *clearly* in (18) are evidential adverbs of deduction at the Layer of Episode on the Representational Level. In (16), the writer and anchor presenting a conclusion on the basis of what he appears to have observed in Claire’s behavior.

- (16) ‘The letter says this – ‘In case I forget to tell you, Claire has made a will with Peter Levett making her cousins beneficiaries’ said Mr Halsey. But that will mysteriously vanished and was replaced by the one making MacMaster the sole beneficiary. He got Ms Gordon to sign it as she

became increasingly ill, claiming it would save her money. MacMaster said when he met the actress over 30 years ago, 'she obviously found me attractive.' (18-06-28 GB)

In (17), the knowledge base for the conclusion drawn by the writer and anchor is the perceived absence of photos on Smith's page. The conclusion drawn is that Smith has deleted them.

- (17) Smith has seemingly deleted all photo evidence of Flynn from his page, and he no longer follows the Netflix actor. (Smith still follows Flynn's *13 Reasons Why* co-stars Justin Prentice and Miles Heizer, the latter of whom fans shipped with Flynn before Smith came into the picture. Reps confirmed Flynn and Heizer were just friends.) (18-06-28 GB)

In (18), from the evidence of three baby birds being delivered to the rescue centre, it was concluded that they had lost their mother. The writer, who uses the first person pronoun in the article and works at the animal rescue appears to be the anchor who has seen the baby birds, and drawn the conclusion about them. The paraphrase 'It is clearly the case that they had lost mum' supports the analysis of clearly as an evidential adverb rather than an adverb of manner (see 3.4.2).

- (18) Chris had a brilliant job this week reuniting three siblings with each other. They had clearly lost mum. One baby came in Sunday but then we received another call on Monday as two more youngsters were found peeping and calling. They certainly would not have survived if they had been left. They are now with our orphan team leader Katie to work her magic. (18-06-30 GB)

In (16a), (17a) and (18a) paraphrasing with *from what I observe* followed by a conclusion supports the classification of the adverbs as instances deduction evidential adverbs. For the scope diagnostic, *certainly* has been inserted in (16b), (17b) and (18b) as an adverb with higher scope than *obviously*, *seemingly* and *clearly*. Relative time, which is scoped over by the evidential adverb of deduction is expressed in (16c) by *after a while*, and in (17c) and (18c) by elements that were present in the newspaper text: the present perfect of *delete*, and the past perfect of *lose*.

- (16) a. *From what I observe*, she found me attractive.

- b. Certainly she *obviously* found me attractive.
- c. She *obviously* found me attractive after a while.
- (17) a. *From what I observe*, Smith has deleted all photo evidence of Flynn from his page.
- b. Certainly, Smith has *seemingly* deleted all photo evidence of Flynn from his page.
- c. Smith has *seemingly* deleted all photo evidence of Flynn from his page.
- (18) a. *From what was observed*, they had lost their mum.
- b. Certainly, they had *clearly* lost their mum.
- c. They had *clearly* lost their mum.

In Table 10, I show the results of the analysis of *obviously*, *seemingly* and *clearly* as evidential adverbs of both inference and of deduction.

Table 10. *Summary of the analysis of obviously, seemingly and clearly*

LEVELS	INTERPERSONAL	REPRESENTATIONAL		
Layers	<i>Communicated Content</i>	<i>Propositional Content</i>	<i>Episode</i>	<i>State of Affairs</i>
Evidential Category	Reportative	Inference	Deduction	Event Perception
<i>obviously</i>		+	+	
<i>seemingly</i>		+	+	
<i>clearly</i>		+	+	

3.5.6 Visibly

Visibly is classified as an evidential of deduction at the Layer of Episode in some contexts and in others as an evidential of event perception at the Layer of State of Affairs. *Visibly* in (19) is classified as an evidential adverb of deduction on the Representational Level. The writer of the article appears to be the anchor who had drawn the conclusion about the level of the water in the river from the observation. The paraphrase, ‘It is *visibly* the case that the level of the Tigris River has dropped’ expresses the evidential meaning (see Section 3.4.2).

- (19) Ambassador Fatih Yildiz told reporters in Baghdad that it will take nearly a year to fill the reservoir behind Turkey’s Ilisu dam. The level of the Tigris River has *visibly* dropped since the filling began on Friday, with Iraqis able to cross the river on foot in some places. The Tigris and

the Euphrates, which has also been affected by upstream Turkish dams, are Iraq’s main source of water. (19-06-05 GB)

In (20), *visibly* is an evidential of event perception at the Layer of State of Affairs on the Representational Level. The writer as the anchor is reporting on events he observed in court. In addition to the analyses in (19a-c), there are two points that support this classification. Firstly, *visibly* is unlikely to be a manner adverb: ‘He winced in a visible way.’ This paraphrase is odd as the definition of ‘wince’ in the Cambridge online dictionary is “to show pain suddenly for a short time in the face,” which means that the facial expression would always be observable. Nuyts’ paraphrase (Section 3.4.2) for evidential adverbs as in ‘It was *visibly* the case that he winced’ is acceptable and seems to indicate that the wince was observed by the writer.

- (20) William Lincoln, 60, who suffers from bladder problems and has had a double hip replacement, gingerly left the dock on occasion to go the toilet. He *visibly* winced as he slowly got to his feet when asked to stand by the court clerk. (16-03-07 GB)

The paraphrasing in (19a) shows *visibly* as an evidential adverb of deduction by inserting *from what I observe* before the conclusion. In (19b) *certainly*, an adverb of subject modality, which has a higher scope than *visibly*, while (19c) shows that the news text already has the present perfect in *has dropped* which is an instance of relative tense with lower scope than *visibly*.

- (19) a. *From what I observe*, the level of the Tigris River has dropped.
 b. Certainly, the level of the Tigris River has *visibly* dropped.
 c. The level of the Tigris River has *visibly* dropped.

In (20a) the paraphrase with *what I observed/saw was that* supports the analysis that this instance of *visibly* is a case of event perception. *Yesterday* in (20b) expresses absolute time, which has higher scope than evidential *visibly*. *Slightly* in (20), which is a degree adverb has lower scope than *visibly*.

- (20) a. *What I observed/saw was that* he winced.
 b. Yesterday he *visibly* winced.
 c. He *visibly* winced slightly.

The result of the analysis of *visibly* are tabulated in Table 11.

Table 11. *Summary of the analysis of visibly*

LEVELS	INTERPERSONAL	REPRESENTATIONAL		
<i>Layers</i>	<i>Communicated Content</i>	<i>Propositional Content</i>	<i>Episode</i>	<i>State of Affairs</i>
Evidential Category	Reportative	Inference	Deduction	Event Perception
<i>visibly</i>			+	+

3.5.7 Summary with distributional data

Table 12 shows the FDG framework with the results of the classification of the 11 English evidential *-ly* adverbs using diagnostic criteria. The framework in Table 12 raises the prediction for English evidential *-ly* adverbs with multiple meanings to fall into adjacent categories at the Representational Level. *Apparently* and *evidently* appear to be the only adverbs studied that can be categorized on both the Representational Level and on the Interpersonal Level.

Table 12. *Categorization of -ly adverbs into FDG Layers and Levels*

LEVELS	INTERPERSONAL	REPRESENTATIONAL		
<i>Layers</i>	Communicated Content	Propositional Content	Episode	State of Affairs
<i>reportedly</i>	+			
<i>purportedly</i>	+			
<i>allegedly</i>	+			
<i>supposedly</i>	+			
<i>apparently</i>	+	+	+	
<i>evidently</i>	+	+		
<i>presumably</i>		+		
<i>obviously</i>		+	+	
<i>seemingly</i>		+	+	
<i>clearly</i>		+	+	
<i>visibly</i>			+	+
categories	reportativity	inference	deduction	event perception

Table 13 shows the results of calculations regarding the distribution and frequency of evidential *-ly* adverbs in recent UK newspaper entries in the GB section of the NOW corpus. In the second column, A gives the number of entries out of a thousand randomized items that had to be searched to retrieve the fifty occurrences (column 3, B) of *-ly* adverbs that modify a main clause.

The classification of these evidential -ly adverbs is found in the four ensuing columns. The final column shows the frequency of *clearly* and *visibly* acting as manner adverbs modifying a main clause.

Table 13. *First 50 of evidential -ly adverbs in main clauses after randomization of a thousand examples of each adverb occurring in the NOW corpus before 1 July 2018.*

-ly adverb	A	B	Reportative	Inference	Deduction	Event Perception	Manner
<i>reportedly</i>	85	50	50				
<i>purportedly</i>	363	50	50				
<i>allegedly</i>	131	50	50				
<i>supposedly</i>	297	50	50				
<i>apparently</i>	123	50	42	5	3		
<i>evidently</i>	106	50	4	46			
<i>presumably</i>	177	50		50			
<i>obviously</i>	87	50		49	1		
<i>seemingly</i>	426	50		45	5		
<i>clearly</i>	74	50		43	4		3
<i>visibly</i>	536	50			30	13	7

On the basis of these data, it can be seen that the 11 English evidential -ly adverbs found in the data have a strong tendency to cluster in one of the FDG categories. Except for *evidently* which may be broadening in scope, the scattering of other positions in the current data shows a tendency to a distribution lower down the scope scale. In addition, the -ly adverbs vary in their frequency in main clauses. It should be noted that some of these adverbs occur more frequently in other grammatical constructions. Some of these occurrences will be investigated in later chapters.

3.6 Conclusion

The classification of English evidential -ly adverbs in FDG categories has been supported by the acceptability of examples illustrating scope relations. On the basis of the collated results in Table 13, it can be concluded that the predictions that were stated in Section 3.3 are consistent with the distribution of English evidential -ly adverbs appearing in main clauses in the present data. If an evidential -ly adverb has multiple meanings on the Representational Level, these do indeed fall into adjacent FDG hierarchical Layers, and secondly, some -ly evidential adverbs do appear on the Interpersonal and the Representational Level. The stepwise pattern of the adverbs on the Representational Level may well indicate developmental path, which would have to be explored in a diachronic study.

4 When English complement clauses meet evidential adverbs²¹

4.1 Introduction

This paper explores the distribution of evidential adverbs in complement clauses that act as arguments of a complement-taking predicate. That the form of complement clauses is determined by the (semantics) of a complement-taking predicate has been well-established (Noonan 2007). However, whether across languages the occurrence of elements occurring in the complement clause are then in turn determined by the constraints of the complement-taking predicate is still being explored. Haegeman (2006:1664), Bastos *et al.* (2007) and Keizer (2018: 5; 2020: 7, 13) all address the topic. While Bastos *et al.* (2007) shows for Brazilian Portuguese that modifying modal expressions align with the constraints imposed by the complement-taking predicate, Keizer (2018) considers the occurrence of the English adverb *frankly* in complement clauses. When initially surveying occurrences of evidential adverbs in written news items for this study, it was noticed that evidential adverbs did not seem to be consistent in their alignment with the type of complement. The present chapter, therefore, focuses on evidential adverbs in complement clauses. It is argued that the distribution of evidential adverbs in complement clauses is determined not only by the nature of the complement clause but also by the nature of the evidential adverb, and the nature of the anchor of the evidential adverb. The first factor concerns the semantics of complement clauses acting as argument of a complement-taking predicate, the second is the type of source evoked by the evidential adverb, and the third is whether the anchor of the evidential adverb is the subject of the matrix clause or the current speaker.

The present study focuses on sentence adverbs, not on cases where the adverbs function as premodifiers of adjectives. The grammatical configuration under study is illustrated in (1) and (2) in which an evidential adverb modifies the verb in the complement clause, which acts as an argument of a complement-taking predicate. In all examples in this chapter, the complement-taking predicate is underlined and the evidential adverb is in italics.

²¹ This chapter is a slightly adapted version of an article published as Kemp, Lois. 2023. When English complement clauses meet evidential adverbs. *English Language and Linguistics* 27.4. 749–772 (<https://doi.org/10.1017/S1360674323000151>).

- (1) Deputy Supreme Court president Lord Mance said the present law ‘*clearly* needs radical reconsideration’ and that the opinion of the court ... cannot be safely ignored. (18-06-07 GB)

In (1), the evidential adverb *clearly*, which modifies the verb *need*, appears in the complement clause of the complement-taking predicate *say*. The quotation marks show that the subject of the matrix clause is the anchor who is responsible for using the evidential adverb, as the adverb is part of the quote.

- (2) Madden, a production assistant who worked at Miramax for a decade, told the Times that Weinstein *allegedly* ‘prodded her for massages at hotels’, a common theme among the sources the Times’s reporters spoke with. (18-01-10 GB)

In (2), the quotation marks help us to see that Madden is not the anchor of the evidential adverb as the writer chooses not to include the evidential adverb *allegedly* in the quote. This means that the anchor is the current speaker.

The framework used for analysis in this paper is Functional Discourse Grammar (FDG). FDG uses its categorial analysis to classify not only complements of complement-taking predicates but also various types of adverbs including evidential adverbs. For this reason, this chapter adopts the theory of FDG to examine the licensing patterns of complement-taking predicates, the constraints of complement clauses and the categories of evidential adverbs appearing in complement clauses. Furthermore, I refer to Noonan’s (2007) list of complement-taking predicates, which creates a set of expectations for the form of the complement clause.

The hierarchical layered organization of FDG, will be used here firstly to present a classification of English evidential adverbs drawn up in Chapter 3. This work was based on the classification used by Hengeveld & Dall’Aglio Hattner (2015) to analyse grammatical evidentials in 64 native Brazilian languages. Secondly, FDG is applied to address the nature of the complement clause determined by the complement-taking predicate (Hengeveld & Mackenzie 2008; Keizer 2015). The FDG layers to which the complement clauses belong will be compared with the layer of the evidential adverbs they contain. This means, for instance, that an explanation can be provided for the licensing of the evidential adverb *clearly* in the complement clause of the verb of communication *say* in (1) and for the licensing of *allegedly* in the complement clause of *tell* in (2).

The third issue to be addressed in this paper that has not been analysed

within FDG but does appear to influence the distribution of evidential adverbs in complement clauses is the anchor of the evidential adverb, that is, the person who is responsible for expressing the source information. The anchor can either be an actor anchor, that is, the subject of an active matrix clause, as in (1), or of a passive matrix clause, or it can be a current speaker anchor, that is, the speaker/author of the text, as in (2).

The chapter is organized as follows. Section 4.2 provides the necessary theoretical background, including a brief presentation of FDG, and its treatment of evidentiality. Furthermore, the section discusses the FDG classification of complement clauses and expands on the notion of anchoring. Section 4.3 then formulates the predictions, which follow from the theory with respect to the licensing of different types of evidential adverbs in different types of complement clauses, and with respect to the different types of anchoring. Section 4.4 describes the corpus used and the methods applied. The results relating to the predictions are presented in Section 4.5 and 4.6. Finally, Section 4.7 is dedicated to the summary and discussion and Section 4.8 to the conclusions.

4.2 Theoretical background

This section provides the FDG tools chosen for the analysis. In Section 4.2.1, I present a brief outline of FDG. Section 4.2.2 then goes into the classification of evidential adverbs, while Section 4.2.3 presents the classification of complement clauses and complement-taking predicates. Lastly, Section 4.2.4 discusses the notion of anchoring.

4.2.1 Functional Discourse Grammar

FDG is a theory that has at its core a grammatical component with interrelated levels which are diagrammatically set out in Figure 1.

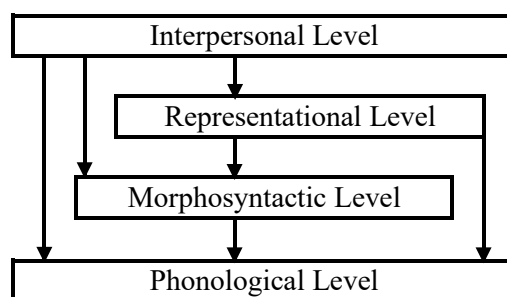


Figure 1. *Levels in FDG* (Hengeveld & Mackenzie 2008)

The levels run from the pragmatic Interpersonal Level at the top of the hierarchy, through the semantic Representational Level and the Morphosyntactic Level, to the lowest level, the Phonological Level. The two lower levels cover encoding while the two top levels, which concern us, comprise elements of formulation. The arrows in Figure 1 show the direction of the scope relations. Each level in Figure 1 comprises different hierarchically ordered layers, which are depicted in Table 1 as separate cells, between which arrowheads show scope relations.

Table 1: *Layers of the upper two levels of formulation in the FDG hierarchy* (Abstracted from Hengeveld & Mackenzie 2008)

Interpersonal Level

Discourse Act	Illocution	<i>Communicated Content (C)</i>	Referential Subact	Ascriptive Subact
---------------	------------	---------------------------------	--------------------	-------------------

V

Representational Level

<i>Propositional Content (p)</i> >	<i>Episode (ep)</i> >	<i>State of Affairs (e)</i> >	<i>Configurational Property (f^c)</i> >	Individual/Property
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In Table 1, the names of the layers in black are those that concern us in this chapter, as the discussion below shows. This means that we are concerned with one layer, the Communicated Content, on the Interpersonal Level, which is the level of pragmatics, and four layers on the lower Representational Level, which is the semantic level. While the Communicated Content on the Interpersonal Level scopes over all layers on the Representational Level, the Propositional Content layer on the Representational Level scopes over all the lower layers on the same level. The scopal layers reflect the positions that the elements can take in a clause.

Elements that are classified in the FDG categories of concern in Table 1 are exemplified in later sections of the paper. Now briefly, I will describe the layers of interest. On the Interpersonal Level, the Communicated Content is concerned with the message that the speaker wants to evoke in the addressee. On the Representational Level, the Propositional Content reflects mental constructs, while the Episode concerns a set of States of Affairs that involve the same time, space and participants. A State of Affairs is a single event or state, and is composed of elements of the Configurational Property such as a predicate and its arguments.

I will focus on the FDG categorization of evidential adverbs in 4.2.2. and that of the complement clauses of complement-taking predicates in Section 4.2.3.

4.2.2 Evidential adverbs

Firstly, this section briefly discusses ways in which evidential adverbs have previously been categorised in the literature with respect to source of information (4.2.2.1), level of analysis (4.2.2.2) and their functional role (4.2.2.3). I then turn to the classification of evidential adverbs within FDG (4.2.2.4).

4.2.2.1 Source

In this subsection, I consider the broad and narrow views of evidentiality in the literature and cite authors who adopt these views. The broader view involves the pragmatic interactional functions of evidentiality such as reliability and judgement, while the narrow view focuses on the semantic categorization of types of evidential items.

Within his broader view of evidentiality, Chafe (1986: 263), who writes on English, discusses attitudes to knowledge while in his narrow view, he sees evidentiality as marking source of knowledge. Martínez Caro (2004: 188), who combines the broad and narrow view, sees evidential meaning as having a ‘double function’ of source of information together with an expression of a degree of reliability/certainty. Carretero & Zamorano-Mansilla (2014) discuss the relation between epistemic modals and evidentiality. Marín-Arrese, Hassler & Carretero (2017: 1) adopt the broader view of evidentiality and consider speaker stance involving attitude or commitment to the conveyed information. However, Willet (1988: 55) points out that underlying both the broad and narrow view of evidentiality is an indication of where the conveyed information comes from.

Within the discussion of the narrow view of evidentiality, which mainly excludes discussion of epistemic meaning, linguists posit various semantic categorizations of evidential adverbs which reflect source of information. In his work on English, Guimier (1986: 253–5), makes a distinction between the reportative, the inferential based on present knowledge and that based on perception. Guimier paraphrases the latter type of inferential as follows: ‘From what I could see, I inferred that...’ (Guimier 1986: 253). Willet (1988:57) presents two main types of evidence: direct which is attested, and indirect which is reported and that which is inferred. Although Carretero,

Marín-Arrese & Lavid-López (2017) focus on the pragmatic-interactive function of evidential validity of English evidential adverbs, they do categorise adverbs into types of evidence: direct perceptual evidence, indirect-inferential evidence and Indirect-Reportative evidence. Nuyts (2017: 67) initially names three main categories of evidentiality: the direct or experienced evidentials, and two types of indirect evidential. The two indirect categories are: firstly, evidentials that are inferential showing information arrived at either through logical reasoning from existing knowledge or from direct perception and secondly, information through hearsay. Nuyts splits the three categories into two on the basis of whether they express attitude. Inferentials, he holds, are attitudinal while experienced and reported evidentials are not.

Aikhenvald (2014: 12), who focuses on closed systems of grammatical evidentiality, splits the category involving logical reasoning into Inference, based on perception and assumption, based on existing knowledge. Similarly, although using different terms, Hengeveld & Dall’Aglío Hattner (2015) identify two types of logical reasoning in their analysis of grammatical evidential items of 64 native Brazilian languages. This thesis adopts Hengeveld & Dall’Aglío Hattner’s four-way categorization of evidentials to analyse English evidential adverbs. The FDG categories, which are presented in Table 2 and discussed further in 4.2.2.4, comprise the Reportative, the Inferential based on stored knowledge, the Deductive category involving a conclusion based on direct perception, and finally, Event perception reflecting direct perception of the immediate situation without inference.

Table 2: *Features of different knowledge bases for FDG evidential categories.* (Abstracted from Chapter 3, Section 3.2.2)

Interpersonal	Representational		
reportative	inference	deduction	event perception
involves information from elsewhere	involves inference		no inference drawn
	no perception	involves perception	

The top row of Table 2 shows the FDG labels for the types of evidentiality. Below the labels are the sources of knowledge or knowledge bases involved. It can be read from the table that the category inference involves inference based on existing knowledge, while the category deduction involves inference based on direct perception.

4.2.2.2 Level of analysis

In Ernst (2000, 2002) and Frey & Pittner (1999), the level of analysis of speaker-oriented adverbs is explicitly connected to the position that the adverb may take in the sentence and is analysed with respect to scope relations. This can be illustrated by Frey & Pittner's (1999) analysis of two non-evidential adverbs: the higher layer evaluative *luckily* and the lower layer modal *probably*.

- (3) a. She *luckily* has probably got a job.
 b. *She probably has *luckily* got a job. (Frey & Pittner (1999: 19)

(3a, b) show how the position of the adverb in the sentence relates to the layer of the adverb. When the lower adverb precedes the higher one, the sentence is considered unacceptable. (Frey & Pittner 1999: 19).

In FDG, adverbs are analysed at various levels and layers, and the layers also relate to the position that elements take in the sentence. For instance, in FDG, the evaluative adverb *luckily* (3a) is a modifier of the Communicated Content on the higher Interpersonal Level, while *probably*, which expresses the propositional attitude of the speaker, is at the lower layer of the Propositional Content on the Representational Level. According to an FDG analysis, this means, too, that *luckily* can scope over the lower *probably* (3a) but not *vice versa* as seen in (3b).

Although Ernst (2000, 2002) does not dwell on evidential adverbs, he does show that the linear position of evidential adverbs also reflects whether the adverb form is read as a higher adverb as in (4a), in which *clearly* is evidential, or as in (4b) where *clearly* is a lower adverb of manner.

- (4) a. They *clearly* saw the sign.
 b. They saw the sign *clearly*. (Ernst 2000: 84; 2002: 43).

Carretero (2019: 275, 304) studies *-ly* adverbs that have an evidential and a manner use: *manifestly*, *noticeably*, *patently* *visibly*. She argues that an evidential and manner meaning often coexist and, in these instances, the evidentiality of the adverb is held to be 'a pragmatic implication of the meaning of manner' (Carretero 2019: 275). In FDG's hierarchical structure, an adverb that can have an evidential or a manner reading in different contexts is analysed at different layers with the adverb conveying a manner meaning being on the lower layers of the Representational Level. As will be seen in

Table 5 of Section 4.2.2.4, in FDG, different evidential adverbs are found at various layers depending on the source of the information.

4.2.2.3 Functional role: evidential adverbs and orientation

In their descriptive grammar, Quirk *et al.* (1985: 620) include evidential adverbs in their category of content disjuncts, through which they hold that the speaker expresses a comment of conviction, doubt or value judgment with respect to the content of the clause. The work also adds that some *-ed* based adverbs such as *allegedly* express the view of others (Quirk 1985: 623n). Within a scopal theory approach, Ernst (2000, 2002, 2020) categorises evidential adverbs as speaker-oriented adverbs, or rather as adverbs showing the view of the speaker, which he notes are adverbs mostly ending in *-ly*. Ernst (2009: 536n) suggests that in some cases the term speaker-orientation may be too narrow for evidential adverbs such as *obviously*, as they may well involve subject-orientation or experiencer/point-of-view orientation. The reason why this paper does not adopt terms describing orientation but prefers the notion of anchor is explained in Section 4.2.4.

4.2.2.4 Evidentiality in FDG

FDG has four categories of evidentiality which are reportativity, inference, deduction and event perception. Table 2 shows how these relate to one another. Each category draws on a different source, that is, a different knowledge base. The FDG evidential categories are reflected in the definition of evidentiality adopted here, which is an adapted version of de Haan's (2005: 380) definition of evidentiality.

Evidentiality asserts the existence of evidence, which could either be external to or in the speech situation or it could be the result of a cognitive process. (Chapter 3, Section 3.2)

This definition follows the narrow view of evidentiality and does not admit of epistemic meaning in evidentiality.

Table 3: *Evidential categories mapped on to the Interpersonal Level (IL) and Representational Level (RL). (Abstracted from Hengeveld & Mackenzie 2008)*

Interpersonal Level (IL)					
Layers	Discourse Act	Illocution	<i>Communicated Content (C)</i>	Referential Subact	Ascriptive Subact
Category			Reportative		

V

Representational Level (RL)				
Layers	<i>Propositional Content (p)</i>	<i>Episode (ep)</i>	<i>State of Affairs(e)</i>	<i>Configurational. Property (f')</i>
Category	Inferential >	Deduction >	Event Perception	

The four FDG categories of evidentiality were identified and recorded in Hengeveld & Dall’Aglia Hattner (2015). The categories fall within the two highest levels of formulation of the FDG hierarchical organization as can be seen in Table 3, in which scope relations are indicated by arrowheads. The item before the arrowhead scopes over the item(s) after the arrowhead. The two FDG levels in Table 3 are collapsed in Table 4 in which arrowheads show the scopal relations between the 4 evidential categories.

Table 4. *Sketch of the scopal FDG hierarchy*

FDG Level:	Interpersonal Level		Representational Level		
Evidential category:	Reportative		Inferential	Deduction	Event Perception
FDG layer with scope arrows	<i>Communicated Content (C)</i>	>	<i>Propositional Content (p)</i>	>	<i>Episode (ep)</i> > <i>State of Affairs (e)</i>

As shown in the fourth column within the Interpersonal Level in Table 3 and within the second column in Table 4, only one evidential category, the reportative evidential, operates on the pragmatic Interpersonal Level, at the Layer of the Communicated Content. It scopes over the other three evidential categories at the Representational Level. There is also a scopal relation between the 3 relevant layers of the Representational Level as shown in Table 4.

The position in the hierarchy of the reportative evidential category on the Interpersonal Level reflects the category’s role in signaling the presentation of a message from elsewhere, for instance, a reported message

from a previous conversation or document, which then forms a knowledge base to which the anchor has access. The adverbs of this layer that were analysed in Chapter 3 for their uses in main clauses are *reportedly*, *purportedly*, *allegedly*, *supposedly*, *evidently*, *apparently*.

On the Representational Level, we see three further evidential categories, which are labelled Inference, Deduction and Event perception. The higher categories of inferential evidential *-ly* adverbs such as *evidently*, *apparently*, *presumably*, *obviously*, *seemingly*, *clearly* signal that content has arisen from a cognitive process based on existing knowledge. Deductive evidential adverbs such as *apparently*, *obviously*, *seemingly*, *clearly* and *visibly* signal that a message has arisen from a cognitive process triggered by direct perception. In the lowest evidential category of event perception, adverbs such as *visibly* reflect direct perception of an event or immediate situation without inferencing.

Table 5. *FDG classification of evidential -ly adverbs in main clauses* (Chapter 3, Section 3.5.7)

Levels:	Interpersonal	Representational		
Evidential category	reportative	inference	deduction	event perception
Adverbs				
<i>reportedly</i>	+			
<i>purportedly</i>	+			
<i>allegedly</i>	+			
<i>supposedly</i>	+			
<i>evidently</i>	+	+		
<i>apparently</i>	+	+	+	
<i>presumably</i>		+		
<i>obviously</i>		+	+	
<i>seemingly</i>		+	+	
<i>clearly</i>		+	+	
<i>visibly</i>			+	+
Layer	Communicated Content	Propositional Content	Episode	State of Affairs

In column 1 are the evidential adverbs which are part of this study. In row 2 are the types of FDG evidential categories. Reading Table 5 horizontally, we see that while some evidential adverbs fall into just one evidential category, such as *reportedly*, others, such as *evidently* can have a reportative reading and in other contexts be used as an inferential evidential adverb. Cells that are empty indicate that no occurrences of the 11 adverbs in the relevant evidential readings were attested in the data analysed.

4.2.3 Complementation and Complement-taking predicates

This section firstly presents Noonan's categories of complement-taking predicates, which are translated into FDG categories. If the FDG evidential categories of the adverbs contained within the complement clauses of these predicates is licensed, this is called a Match. If the complement clause does not license the adverb, the instance is called a Mismatch. These labels allude to Noonan's use of the term 'match' used to refer to the alignment of a complement with its predicate. (Noonan 2007: 101).

4.2.3.1 Complement-taking predicates (CTPs) and their complements

Noonan (2007: 52) describes complementation as 'the syntactic situation that arises when a notional sentence or predication is an argument of a predicate'. The argument can be a finite clause, or a non-finite clause. Thus, the complement clauses analysed here are either finite clauses introduced by *that* or a *zero* complementizer or non-finite clauses.

In his discussion of the semantics of verbal complementation, Noonan (2007) points out that the type of complement clause is determined by the meaning of the complement-taking predicate. He states: 'Complementation is basically a matter of matching a particular complement type to a particular complement-taking predicate' (Noonan2007:101). Similarly, Hengeveld & Mackenzie (2008: 362) and Hengeveld *et al.* (2019) state that the semantics of complement-taking predicates license different clausal complements defined in terms of FDG layers. For instance, predicates expressing a propositional attitude take a Propositional Content as their complement, while predicates of direct perception take a State of Affairs as their complement. In work on stance adverbs, Keizer (2020:7) adds that complement-taking predicates have different selectional properties which determine the type of clausal complement it takes, while the type of clausal complement constrains the type of adverb that can occur within it. The focus in this paper is on

discovering whether the constraints of the complement clause apply to evidential adverbs. It should be noted that authors classify complement-taking predicates differently into various narrower or broader categories. Various similar divisions can be found in Dik & Hengeveld (1991: 234–7), Genee (1998), Noonan (2007), and Wurmbrand & Lohninger (2019), inspired by Givón (1980). Hengeveld & Mackenzie (2008: 362) have identified five types of complement clauses using the FDG scopal hierarchy, which is the classification adopted here, as it is also applied to the classification of evidential adverbs in this paper. In Table 6, Noonan’s influential (2007) classification is compared to the one developed within FDG-

Table 6. *Clausal Complement types*

CTPs in Noonan’s terms (2007)	English complement-taking predicates	FDG layer of Complement
Utterance predicates:	<i>say, tell, report, inform, point out</i>	Communicated Content
Propositional attitude predicates:	<i>know, mean, see, seem, believe, judge, assume</i>	Propositional Content
Commentative predicates:	<i>regret, resent</i>	Episode
Predicates of acquisition of knowledge:	<i>discover, hear, notice, see, show, prove, spot, learn, reveal, emerge</i>	
Manipulative predicates:	<i>cause</i>	State of Affairs
Predicates of immediate perception:	<i>see, witness</i>	
Phasal predicates:	<i>begin, leave</i>	Configurational Property

In the left-hand column of Table 6 are Noonan’s labels for the various Complement-taking predicates, while examples of English predicates are found in the middle column. To the right are the relevant FDG layers of the complements of the complement-taking predicates.

4.2.3.2 Matching

The notion of matching is used for the alignment of the semantics or selectional criteria of a complement as determined by the complement-taking predicates with the semantics of an evidential adverb in that complement

clause. The term mismatch is preferred to ‘lack of licensing’ as this would seem to involve infelicity while a mismatch of FDG categories may not always be infelicitous. A mismatch is the non-alignment of linguistic categories, which could imply that other mechanisms are at work.

From two studies, it does appear that matches occur most often. Bastos *et al.* (2007:195) show that modifying modal expressions in complement clauses of complement-taking predicates pertain either to the layer required by the complement clause or to a lower layer, but never to a higher layer. Keizer (2015: 210) discusses the use of various modifiers in complement clauses which correspond to the semantics of that complement. This paper expects that an evidential adverb in a complement clause will align with the semantic category of the complement category as in (5).

- (5) I assume that Jane *presumably* used the car. (author’s example)
 (6) ?I assume that Jane *reportedly* used the car. (author’s example)

Thus, a verb that expresses a propositional attitude such as *judge/assume* in (5) embeds a complement clause that denotes a Propositional Content. Such a complement clause is predicted to license an evidential adverb of the same Propositional Content layer such as *presumably* as in (5) or that of a lower level but not that of a higher level such as *reportedly*, seen in (6).

Table 7 visualizes a matching scheme for complement clauses and evidential adverbs within the FDG hierarchy. It allows us to read off predictions based on the scopal capacity of the layer of the clausal complement to determine the type of modifier that can be expected to occur in the complement clause. The expectation is that there will be no instances occurring in the shaded cells as these would be mismatches.

Table 7: *Matches and Mismatches* (Abstracted from Hengeveld & Mackenzie 2008:363; Bastos (2007: 203)

Type of adverb	Clausal complement types classified in FDG layers				
	Communicated content (C)	Propositional Content (p)	Episode (ep)	State of Affairs (e)	Configurational Property (f ^c)
<i>Reportative</i> (C)	*				
<i>Inferential</i> (p)	+	*			
<i>Deduction</i> (ep)	+	+	*		
<i>Event perception</i> (e)	+	+	+	*	

Row 2 of Table 7 shows the layers that pertain to complement clauses, while column 1 lists categories of evidential adverbs. An asterisk (*) or a plus sign (+) mark matches and indicate the selectional criteria of the complement clause. An asterisk marks that the complement clause and the evidential are at the same FDG layer, so it represents the highest possible match. A plus sign marks that the evidential adverb is at a lower layer than the complement clause. Thus, the Propositional Content layer of *assume* in (5) would intersect with the row of the inferential adverbs to which *presumably* belongs and would form a match. Example (6) would form an intersection of the Propositional Content column with the row of reportative adverb types, which is a grey-shaded cell indicating a mismatch. All predictions regarding evidential adverbs that can occur within the various clausal complement types can be read off Table 7 in the same way.

There are two further predictions resulting from Table 7 to be pointed out here. Firstly, as all evidential adverbs are either of the same layer or of a lower layer than the Communicative Content layer (C), there can only be matches between evidential adverbs and complement clauses at this layer. Secondly, as there are no evidential adverbs within the layer of the Configurational Property (see 2.2.4), no matches with the category of this type of complement clause can be established.

4.2.4 Anchoring of evidential adverbs in complement clauses

As mentioned in 2.2.3, we do not adopt the term speaker-orientation in relation to evidential adverbs. The difference between anchoring and speaker-orientation will be discussed first and then the difference between current speaker anchors and actor anchors.

Ernst (2002:104) does recognize that there is a difference between other speaker-oriented adverbs, such as the evaluative *luckily*, and evidential adverbs, but his analysis of the difference does not go further. What is expressed by the adverb *luckily* is the speaker's own evaluation with respect to a proposition and, therefore, the adverb is speaker-oriented. However, an evidential adverb expresses the relation of a proposition to the source of the information or knowledge base. The person who is responsible for using the evidential adverb to indicate the type of source involved is the anchor. We have seen that the anchor of an evidential adverb can be either the current speaker as seen in example (2), or the actor of the matrix clause as seen in (1). The actor anchor may be the subject of an active or of a passive matrix clause.

The distinction between the role of the current speaker and the actor

of the matrix clause is found in other works. The notion, if not the label itself, is found in van der Leek (1989: 230–1) with respect to verbs of perception. In Keizer (2018: 74), an instance of *frankly* in the complement of an utterance predicate leads to a distinction being made between the reporting speaker and the reported speaker, which is mirrored by current speaker anchor and the actor anchor used here. Haegeman (2006: 1666) uses the term anchoring and suggests that ‘the upper layer of the left periphery’, which we are not considering here, is dependent on speaker anchoring.

The present paper investigates not only the capacity of the complement clause of a complement-taking predicate, but also the influence of the type of evidential anchor in determining which type of evidential adverb can occur in the complement clause.

4.3 Predictions

Table 7 provides predictions for the co-occurrence of the five types of clausal complement and four types of evidential adverb. The predictions noted in 4.2.3.2 are listed here. Predictions 1a-c concern matches between the categories of complement clauses and categories of evidential adverbs. Prediction 2 concern the capacity of the current speaker anchor to override the constraints of the complement clause.

- 1
 - a. No evidential adverb will be of a higher layer than the complement which contains it.
 - b. As there are no evidential adverbs at the layer of Configurational Property, no matches will occur with complement clauses of this layer.
 - c. There can only be matches between evidential adverbs and complement clauses of the Communicative Content Layer as this layer contains all the other layers of concern.
- 2 Should there be no alignment between the evidential adverb and the complement clause, it is expected that the current speaker will be responsible for the evidential adverb and override the constraints of the complement clause. This means that in cases of a mismatch, the current speaker will be the anchor of the evidential adverb.

4.4 Material and methods

This section describes the data collection, which adverbs were searched and where the instances were accessed. Furthermore, this section recounts how the complement clauses were extracted and the present data subset finalized.

Firstly, the evidential adverbs in Quirk *et al.*'s (1985: 620) list of Content disjuncts were searched in the *Oxford English Dictionary* and *Collins English dictionary* for frequency. To ensure sufficient instances of the occurrence of all the evidential adverbs in the dataset, it was necessary to search for adverbs with high frequency. The 10 most frequent adverbs were selected both for Kemp 2018 and for this paper. *Visibly* was added to the list to include an adverb of event perception. Other adverbs of perception, such as *audibly*, were too infrequent to be included in the research.

The data used for this study were gathered from the Great Britain (GB) section of the *News on the Web (NOW)*, *BYU corpus* (Davies 2010–now). The GB section of the *BYU* comprises texts from various types of newspapers and magazines of the United Kingdom and Northern Ireland. However, non-UK newspapers slipped into the search results and were removed manually and replaced by new examples from the extracted data. The data were collected automatically from the corpus covering the period from 2010 to 30 June 2018. The first items that resulted from the corpus search for a particular adverb were extracted. Instances of the highly frequent adverbs were mostly dated 2018 or 2017.

Initially, 1100 instances of each adverb were extracted from the *NOW* corpus. For Chapter 3, these were randomized and to provide an estimate of the frequency of the adverb, the number of instances that had to be searched before 50 occurrences of the adverb in main clauses were found. For this chapter, all the non-UK instances, and double instances of the same date and source were removed from all the lists of adverbs, which in some cases meant removing up to 50 instances. Subsequently, the first 1000 instances in each list were used to form the present dataset. However, only 833 instances of *purportedly* remained.

All instances in the dataset were searched to locate verbal complement clauses which were then extracted manually to form a data subset. This was judged to be the most secure method of extraction because of the different forms that complement clauses can take. They can be finite with or without a complementizer, or non-finite with a bare infinitive, a *to*-infinitive or an *-ing* form. (Hengeveld *et al.* 2019: 277).

A total of 101 complement clauses, all declaratives, which contain an evidential adverb, were identified, which is 0.9% of all the instances in the dataset.²² Examples in which the evidential adverb was set off from the

²² Within the same dataset, approximately 35% of the instances of evidential adverbs occurred in main clauses. Using the same dataset for exploring the use of evidential adverbs in various

complement clause by commas were excluded from the research. Because the data is written, we rely on the absence of commas to tell us that the adverb would, in speech, be prosodically integrated in the clause.

The data subset of complements of complement-taking predicates was first classified into five types of clausal complements based on FDG criteria for complement clauses (see Table 6). The data subset was subsequently classified according to the four categories of evidential *-ly* adverbs, see Table 5, and finally for type of anchor. If the actor of the matrix clause was first person and the verb was in the present tense, the anchor was noted as a speaker-anchor. In determining anchor types, it was necessary to establish whether the evidential adverb had appeared in the original text as in (1) or had been inserted by the current speaker/writer in recording the information from a knowledge base as in (2). Furthermore, for the classification of anchor-type, it was sometimes necessary to read more context in the original source than that provided by the corpus interface.

4.5 Results and prediction 1

The results of the analysis pertaining to prediction 1, which concerns matches and mismatches are presented in Table 8. The numbers represent instances in the data subset occurring at the intersection of type of clausal complement, and type of evidential adverb. The empty cells show that no instances with these values were attested in the data subset. The grey shaded cells show where mismatches were found.

Table 8. *Results*

<i>Type of -ly adverb</i>	Clausal complement types classified in FDG layers				
	Communica- ted Content (C)	Propositio- nal Content (p)	Episode (ep)	State of Affairs (e)	Configurational Property (f')
<i>Reportative (C)</i>	43	6	4	5	2
<i>Inferential (p)</i>	7	6	5		1
<i>Deduction (ep)</i>	2	1	10	6	1
<i>Event perception (e)</i>	1				1
Total 101	53	13	19	11	5

_____ sentence constituents allows comparisons to be drawn. See Chapter 5 for evidential adverbs in noun phrases.

The columns in Table 8 make clear that evidential adverbs in the data occur in all five categories of clausal complements of complement-taking predicates. The results show that prediction (1a) is partially met. In 70 cases, the prediction for matches between the category of evidential adverbs in that of the complement clauses are met whereas in 31 cases, there are mismatches. As predicted in (1b), because there are no evidential adverbs that belong to the of Layer of the Configurational Property (f^c) or a further lower layer, the complement clauses of the Configurational Property (f^c) cannot result in matches. Also, as predicted in (1c) and seen in the second column of Table 8, there are only matches in the column of the Communicated Content complement type.

Examples (1), (2), (7), (8) and (9) are matches in which the complement clause and the evidential adverb are at the same FDG layer. Examples (1) and (2) are examples of matches at the Communicative Content Layer of the Interpersonal Level, while examples (7), (8) and (9) illustrate matches on the Representational Level.

- (7) We do know that Tesla and Elon Musk have *seemingly* made some U-turns regarding the actual construction of the Model Y since that first announcement. (18-05-03 GB)

In (7) there is a match with the clausal complement of the Propositional Content type (p) of the complement-taking predicate *know* and an inferential (p) adverb *seemingly*.

- (8) I saw the game and noticed you *obviously* need a bit of work done. (18-06-02 GB)

Example (8) is a match between an episode type (ep) clausal complement of the predicate *notice* and an evidential adverb of deduction (ep) *obviously*.

- (9) Ralfs was seen *visibly* shaking in the dock as His Honour Judge Peter Ralls QC sentenced him to two-years imprisonment, one-year for each offence. (17-07-17 GB)

Example (9) shows a match comprising a clausal complement of the event perception type (e) of the complement-taking predicate *see* with the evidential adverb of event perception (e) *visibly*.

4.6 Results and prediction 2

The co-occurrence of the anchor type, type of complement clause, and type of evidential adverb is discussed in this section based on the results in Table 9.

4.6.1 Results table

The results in Table 9 address prediction 2 given in section 3, which says that in the case of a mismatch, the current speaker will be the anchor of the evidential adverb in the complement clause. In addition to the number of instances of matches and mismatches shown in Table 8, Table 9 breaks down the result columns into two: the current speaker anchor (CSp) and the actor anchor (Actor). The numbers represent the instances that occur at the intersection of type of clausal complement, type of evidential adverb and type of anchor. The empty cells show that no instances with these values were attested in the data subset.

Table 9: *Results with the Current Speaker and Actor Anchor (CSp = Current Speaker)*

Evidential -ly adverb	Clausal complement types classified in FDG layers									
	Communicated Content (C)		Propositional Content (p)		Episode (ep)		State of Affairs (e)		Configurational Property (f)	
<i>Reportative</i> (C)	31	10	6		4		5		2	
<i>Inferential</i> (p)	7		5	1	5				1	
<i>Deduction</i> (ep)	1	1		1	9	1	6		1	
<i>Event perception</i> (e)		1							1	
Type of anchor	CSp	Actor	CSp	Actor	CSp	Actor	CSp	Actor	CSp	Actor
Ambiguous anchor	2									
Total 101	53		13		19		11		5	

The results concerning mismatches, matches, and anchor type are discussed below. Section 4.6.2 discusses the anchor type in mismatches, which occur only on the Representational Level, followed by a discussion in

(4.6.3) of the anchor type with matches and finally the ambiguity of anchor in (4.6.4).

4.6.2 Mismatches and current speaker anchor

Table 9 shows that the dataset confirms the prediction that mismatches on the Representational Level, which are found in the shaded cells, have a current speaker anchor, which overrides the constraints of the complement clause. The 31 instances of mismatches occurring on the Representational Level involve clausal complements of the Propositional Layer, Episode Layer, the State of Affairs, and the Layer of the Configurational Property. Examples 10, 11, 12, 13 illustrate mismatches with a current speaker anchor at these layers.

Example (10) is a mismatch involving a complement clause of the predicate *know* expressing awareness, which is at the highest layer of the Representational Level, the Propositional Layer.

- (10) ‘I know I’m *supposedly* worth £8m but somehow I’ve managed to find £50m in my piggybank and the EFL have seen that, so no problem’.
(18-05-24 GB)

The complement clause of the complement-taking predicate *know* in the mismatch in (10) contains the reportative *supposedly*, which is an evidential adverb of the Communicated Content Layer on the Interpersonal Level. Here, the first person is potentially both an actor anchor and a current speaker anchor. It appears that the two anchors compete. However, the current speaker remains in control of what is said and therefore this instance is characterized as having a current speaker anchor.

Example (11) is a mismatch with a complement clause of the Episode layer licensed by the predicate *regret*, which expresses an emotion.

- (11) But Baroness Buscombe, who stood down as chairwoman of the watchdog last year, accused publisher News International of misleading her. ‘I regret that I was *clearly* misled by News International, that I accepted what they had told me’, she told the hearing. (12-02-07 GB)

In (11) the inferential adverb *clearly* is of a higher evidential category than the complement clause. Like (10), example (11) has a first-person pronoun as the subject of the complement-taking predicate and of the passive complement clause. This instance too is characterised as having a current speaker anchor.

Example (12) is a mismatch in a clausal complement of *see* on the layer

of Event Perception with a higher reportative evidential adverb of the Communicated Content Layer.

- (12) Homeowners Nigel and Ceri Ash, 58, say they were woken by the children's screams and ran into the bedroom to see Jenkins *allegedly* holding the knife above the baby girl. (15-05-18 GB)

A reading of (12) with an actor anchor of the reportative evidential adverb *allegedly* would be highly unlikely as the homeowners are recounting their own experience, not a reported experience. Therefore, it can be concluded that the current speaker anchor has inserted reportative *allegedly* into the complement clause

In the data subset, we find further mismatches in the lower FDG layers as in (13) which recounts the reaction of television presenters. *Visibly* has a current speaker anchor as it is the teller and speaker who perceives Rice and Peston squirming.

- (13) Coronation Street star Sally Dynevor and comedian Micky Flanagan get off entirely scot-free (in fact, they might as well not have turned up) this week, but TV presenter Anneka Rice and in particular Robert Peston are left *visibly* squirming. (18-04-13 GB)

Text (13) involves an evidential adverb of Event Perception (e) *visibly* used in a non-finite complement clause of the lower Configurational Property type (f^e), which is an argument of the complement-taking predicate *leave*. Here, the speaker is recounting events and is the current speaker anchor.

4.6.3 Matches with actor or current speaker anchor

Unlike mismatches on the Representational Level discussed 4.6.2, which are all current speaker anchored, matches either have a current speaker anchor (CSp), or an actor anchor when the anchor is the subject of the complement-taking predicate. In Table 9, we see that most of the category matches have a current speaker (CSp) as their anchor, a finding to which I return in the conclusion. First, I will discuss instances of matches with an actor anchor, and then matches with a current speaker anchor for which the decision on anchor type depended on context. Finally, we will see one instance of a match for which it was very difficult to determine the anchor-

4.6.3.1 Matches with an actor anchor

Instances of matches in Table 9 with an actor anchor have quotation marks around the section of the complement clause with the evidential adverbs, such as (1), repeated here for convenience as (14).

- (14) Deputy Supreme Court president Lord Mance said the present law ‘*clearly* needs radical reconsideration’ and that the opinion of the court ... cannot be safely ignored. (18-06-07 GB)

The quotation marks around Lord Mance’s words in (14) indicate that Lord Mance, who is the subject of the complement-taking predicate, is not only the person who entertains the conclusion of the reasoning but also the person who records it, and he is, therefore, the actor anchor of the adverb *clearly*.

Similarly, we see in (15) and (16) that there is a section of the complement clause in quotation marks. These sections contain the words of the subject of the matrix clause who is responsible for the use of the evidential adverb and is therefore the actor anchor.

- (15) Mexico's transport department said on its website that ‘during take-off (the plane) *apparently* suffered a problem and dived to the ground’. (18-05-19 GB)
- (16) Another man, 27, from Barton Hill was arrested after police ‘spotted him *apparently* selling items to a known drug user on Unity Street in St Philips’. (18-05-30 GB)

In (15), there is a match at the same FDG layer: a reportative adverb, *apparently*, in a Communicated Content complement clause. Here, the transport department is the actor anchor. In (16), there is an adverb of deduction, *apparently*, in a complement clause of the Episode type. Here the police are the actor anchor.

4.6.3.2 Matches with a current speaker anchor

In some instances in the complement clause category of the Communicated Content, it was only possible to decide on the category of the evidential adverb and its anchor by referring to other material. Such an example is found in (17).

- (17) The body of the unfortunate Mrs Emsley was found in a room full of rolls of wallpaper, to which she had apparently led her assailant. McKay reports that she had *evidently* bought up a large consignment and had been trying to find buyers for it, but he is mystified as to what role the paper played in the crime. (17-09-06 GB)

In (17), if McKay had seen a photo of the murder scene, the adverb *evidently* would have been one of deduction involving perception and conclusion. The anchor of the adverb would then have been McKay, the subject of the complement-taking predicate. However, in the book by McKay, referred to in the newspaper article, a police report is quoted stating that Mrs Emsley had bought up rolls of wallpaper. The current speaker and writer of the article in *The Spectator* is reporting on information in the police report in McKay's book and uses *evidently* as a reportative evidential adverb. The current speaker and writer of the article in *The Spectator* is, therefore, the anchor of *evidently*.

In matches, subjects of the matrix clause can be a proposition (18) or an inanimate referent (19).

- (18) Both Prince George and Princess Charlotte are believed to have been born by a natural delivery, meaning the Duchess of Cambridge will *presumably* be planning to have a natural birth this time as well. (18-04-23 GB)

In (18) both the complement clause and the evidential adverb are of the same layer, that of the Propositional Content. Here, the current speaker is drawing the conclusion, and is the current speaker anchor of *presumably*.

In (19) there is a complement-taking predicate with an inanimate referent as subject with a current speaker anchor. The complement clause of the predicate *show* and the evidential adverb *seemingly* are both on the Episode Layer.

- (19) Footage of how the installation was made also shows the activists *seemingly* luring the city's rats with McDonald's food, Trump's favourite. (18-03-31 GB)

4.6.4 Ambiguity of the anchor

Sometimes, as in (20), it is not possible to solve potential ambiguity in the anchor type by referring to further available material.

- (20) Newsnight has previously reported that his successor, Kate Emms, was *allegedly* bullied by the Speaker – a claim Mr Bercow denies. (18-05-02 GB)

Both the evidential adverb, *allegedly* and the complement clause in (20) are of the Layer of Communicated content. Here, however, it is not possible to determine who the anchor of *allegedly* is. It could be the programme *Newsnight* which is the subject of the matrix clause or it could be the current speaker.

4.7 Summary and discussion

The aim of the paper is to explore whether the semantics of the complement clause of a complement-taking predicate and the anchor of the adverb determine the type of evidential adverb occurring in that clause. The search for target clauses in the dataset of eleven evidential adverbs revealed very few instances. 101 target clauses, which is 0.9% of the dataset, were found within about ten thousand eight hundred instances in the corpus of recent UK newspaper and magazine texts. The occurrences of evidential adverbs in this clause type are far fewer than those attested in main clauses (Chapter 3). All the 101 sentences in the data subset contained complement clauses of a complement-taking predicate with evidential adverbs that inform the reader about the source or knowledge base from which the content of the complement clause came.

From the high proportion of matches in the data subset, it can be concluded that the type of evidential adverb occurring in a complement clause can to a large extent be predicted by the semantics of the complement clause of the complement-taking predicate. Matches occur with a current speaker anchor and with an actor anchor. From the results, it can be predicted that an evidential adverb with an actor anchor will align with the category of the complement clause and thus produce a match.

However, FDG category mismatches do occur in the data subset. All these mismatches have a current speaker anchor. As the constraints of the clausal complement on the evidential adverb in the complement clause do not hold in mismatches, it is concluded that the current speaker may override the licensing capacity of the complement clause. The current speaker can use an evidential adverb of a higher layer than that of the surrounding complement clause. The adverbs are then current speaker driven rather than complement clause determined.

Mismatches in the results of this analysis show that evidential adverbs in English do not act in the same way as modal modifiers of complement clauses as recorded for Brazilian Portuguese in Bastos *et al.* (2007), despite the FDG predictions for both languages being the same. In Bastos *et al.* (2007), none of the modifiers in the complement clauses pertain to FDG layers higher than that of the complement clause of the complement-taking predicate. In the present study, there are 31 examples of evidential adverbs that pertain to a layer higher than that licensed by the complement-taking predicate. From this perspective, the results are similar to those of Keizer (2018) in which a number of instances of the high layer illocutionary *frankly* occurred within complement clauses of a lower layer.

Keizer (2018) also discovered some mismatches, or as she calls them, ‘unexpected instances’ in complement clauses in which the target adverb occurred in quotations from other sources. Keizer’s (2018) analysis viewed the quoted items as embedded Discourse Acts, which were then not limited by the constraints of the complement clause. In the present data subset, however, quotations in the complement clause occur with matches, not mismatches. I conclude that mismatches occur because the current speaker overrides the constraints of the complement clause. Further support for this argument is found in instances of mismatches with first person pronoun subject in the matrix clause where there is potential competition between anchors (4.6.2), but the speaker wins out.

Furthermore, Keizer (2018) considers two cases of interpersonal *frankly* infelicitous because it was difficult to decipher who was being frank, and therefore difficult to understand. I do not consider any of the instances in the present data subset infelicitous but do think that the potential ambiguity of the anchor could discourage the use of the target configuration. This might well be the reason for there being so few examples in the data subset, which is written and typically edited. It should be noted that similar research into a genre such as casual UK spoken language, or a study focusing on evidential adverbs of lower frequency might render a different balance of results than that found here.

It should also be noted that rather than the predicted actor anchor, current speaker anchoring is the norm rather than the exception in the data. That mismatches are current speaker anchored illustrates the potential of the current speaker to determine the type of evidential adverb occurring in a complement clause. However, the absence of mismatches with actor anchoring serves to support the view that the complement-taking predicate does, indeed, have the capacity to determine the type of evidential adverb in

the complement clause.

4.8 Conclusions

In this paper we applied FDG to tease apart the influences on the choice of evidential adverb in complement clauses. In many cases but not all, the category of the evidential adverb with a current speaker anchor did align with the category of the complement clause, which is, in turn, determined by the complement-taking predicate. However, while there were mismatches between complement clauses and evidential adverbs with current speaker anchors, there were no mismatches with actor anchors. It can be concluded that it is not only the nature of the complement clause that determines which evidential adverb can be used in a clausal complement but that in some instances the current speaker anchor can override the semantic restrictions of the complement clause. From the results of the analysis of the data, it can be confirmed that when there is an actor anchor, the evidential adverb will align with constraints of the complement clause.

It does appear from this work that it is not only the nature of the complement clause, and the nature of the evidential adverb that determines the type of evidential adverb that occurs in a complement clause, but also the anchor of the evidential adverb. This shows us that the type of anchor has a role to play in accounting for the distribution of evidential adverbs in complement clauses of complement-taking predicates.

5 English evidential *-ly* adverbs in the noun phrase from a functional perspective²³

5.1 Introduction

This paper addresses the question of how the distribution and role of English evidential *-ly* adverbs in the noun phrase can be accounted for. Examples of noun phrases containing an evidential adverb are given in (1)-(4).²⁴

- (1) the *visibly* distressed man (17-04-11 GB)
- (2) the *clearly* delighted audience (18-06-18 GB)
- (3) the *seemingly* endless fog (18-02-23 GB)
- (4) the *purportedly* new evidence (17-07-13 GB)

In all these examples, the adverb (in italics) is a modifier within an adjective phrase, which in turn modifies a noun. These are the cases that we will concentrate on in this chapter. Cases like these are different from corresponding main clause uses of evidential adverbs. Compare, for instance, (4) with (5).

- (5) *Purportedly*, the evidence is new.

In (5), the evidential adverb scopes over the entire message 'the evidence is new', which is characterized as deriving from a source other than the speaker. In (4) the evidential adverb scopes over the adjective *new*: it is just the newness that is being attributed to someone else.²⁵

The rather common construction in which an adjective within a noun phrase is modified by an evidential adverb has not received a lot of attention in the literature, exceptions being Van de Velde (2007), Melac (2014:183) and Olbertz (2022). It is mentioned in passing in Givon (1993), Tucker (1998), Hengeveld and Mackenzie (2008: 379), Keizer (2015), and Carretero (2019).

²³ This chapter is a slightly adapted version of an article published as: Kemp, Lois & Hengeveld, Kees. 2022. English evidential *-ly* adverbs in the noun phrase from a functional perspective. *Open Linguistics* 8, 573–592 (<https://doi.org/10.1515/opli-2022-0208>).

²⁴ Like all examples in the chapter, these come from the GB section of the News on the Web (NOW) corpus (Davies–now).

²⁵ Note that, unlike Morzycki's (2008: 104) 'remarkably adverbs', evidential adverbs maintain the same meaning in clause and noun phrase usage. Compare (4) and (5) to: (i) a remarkably tall Clyde; (ii) Remarkably, Clyde is tall. In (i) *remarkably* functions as an adverb of degree, while in (ii) it expresses a speaker attitude.

In light of this situation, the current chapter aims to contribute to the further understanding of this construction by studying which factors influence its distribution and uses, using the theoretical framework of Functional Discourse Grammar (FDG), which is introduced in Section 5.2, after which we explain the methods used in Section 5.3. A first factor identified as relevant for the distribution of evidential adverbs within noun phrases concerns the type of evidentiality expressed by the adverb. The influence of this factor on the distribution of the adverbs is discussed in Section 5.4. The second factor studied in this article concerns the type of modification instantiated by the adjective. Section 5.5 will be dedicated to this question. A third factor that is relevant concerns the nature of the adjective that is being modified, a topic that we will discuss in Sections 5.6 and 5.7. The final factor that we will discuss concerns the restrictiveness of the adjective, a topic that will be addressed in Section 5.8. In Section 5.9, the pragmatic effects that the adverbs bring about will be studied. The chapter is rounded off in the concluding Section 5.10.

5.2 Functional Discourse Grammar – general architecture

FDG is a functional model of language, which starts from the assumption that pragmatics and semantics are reflected in formal categories of language. FDG has a Grammar Component at its core, and a Conceptual Component, an Output Component, and a Contextual Component in its flanks (Hengeveld and Mackenzie 2010: 370). In describing communication, the hierarchically organized grammar component runs from intention to articulation. The highest level of the grammar component is the Interpersonal Level (IL), which addresses pragmatics. It governs the next lower level, the Representational Level (RL), which focuses on semantics. Together these levels then govern the Morphosyntactic Level (ML), and the three of them govern the Phonological Level (PL). These relations are shown in Figure 1.

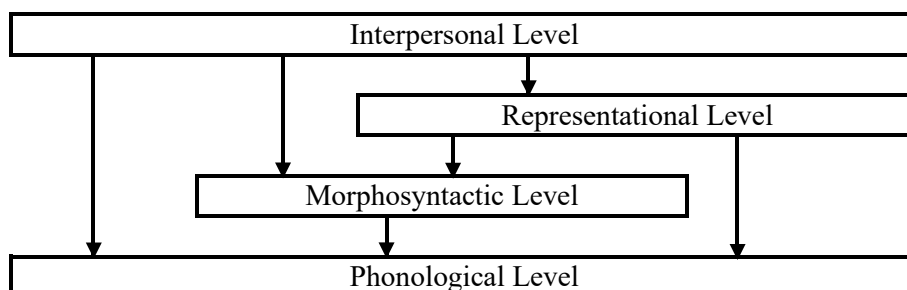


Figure 1. *Levels in FDG*

The two highest levels of this hierarchical architecture cover the Formulation of the message, while the lower two focus on the Encoding of the message into morphosyntactic and phonological representations. It is the two highest levels that we are concerned with in this chapter. Each of these levels consists of several layers that are also in a hierarchical relationship. The ones that are most relevant for this paper are given in Figure 2.

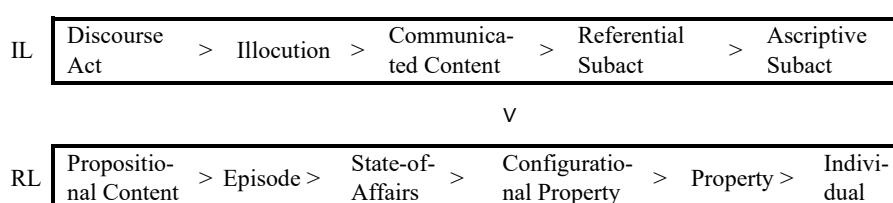


Figure 2. *Hierarchical relations at the Interpersonal and Representational Levels*

The Interpersonal Level focuses on the representation of units of interaction. The basic unit of analysis is the Discourse Act, which is characterized by the fact that it has its own Illocution, which reflects the speaker's communicative intention. The speaker-bound message transmitted in the Discourse Act is called the Communicated Content (C), which comprises two types of Subact, the Referential one (R) and the Ascriptive one (T). The Referential Subact itself is generally built up from one or more Ascriptive Subacts. The Referential Subact can be accompanied by an operator, for example, marking either specificity ($\pm s$) or identifiability ($\pm id$), while the Ascriptive Subact can be modified by, for example, adverbs such as *allegedly*, indicating that the property ascribed derives from a source other than the speaker.

The second highest level, the Representational Level, takes care of the designation of an utterance. It comprises four major layers: the Propositional Content (p), the Episode (ep), the State-of-Affairs (e), and the Configurational Property (f^c). The highest layer represents a mental construct that is entertained, which may be factual or non-factual and can be accompanied by expressions of propositional attitudes regarding certainty or disbelief. The second highest layer of this level, the Episode, represents sets of States-of-Affairs united with respect to time, location and the participants involved. An episode can be anchored in absolute time, for example by adverbs like *yesterday/tomorrow*, while individual States-of-Affairs in the Episode are situated in relative time, which is not measured from speech time. The next

lower layer at the RL is the Configurational Property, which characterizes types of States-of-Affairs, and within which a Property is assigned to entities represented by further layers, such as Individuals (x) or locations (l).

Every layer can be preceded by a (grammatical) operator (π) or followed by a (lexical) modifier (σ) that express semantic or pragmatic information pertaining to the layer at which they apply. Thus, an absolute tense marker is an operator at the layer of the Episode, and a manner adverb is a modifier at the layer of the Property.

5.3 Methods

This study is based on examples drawn from the GB section of the NOW corpus (Davies 2010–now), which contains UK newspaper articles. Instances of 11 different adverbs were selected, which included the 10 most frequently occurring evidential *-ly* adverbs in current usage according to the OED Online (Oxford English Dictionary) and the Collins Online dictionary. To these *visibly* was added to make sure an adverb expressing direct event perception would be included in the study. For each of adverb, 1,000 instances appearing before July 2018 were extracted from the corpus which led to a total of about 11,000 examples,²⁶ from which the ones in which an evidential adverb occurs within a noun phrase were selected. Excluding cases in which multiple adjectives occur in between the adverb and the noun, and noun phrases which occur within other noun phrases, we found 346 instances in which a single evidential adverb modifies an adjective within a noun phrase. These form the sample used in the current study.

The different uses of adverbs and adjectives were classified by both authors, where in cases of doubt, the wider context in which the adverb of adjective occurred was consulted.

5.4 Types of evidentiality

5.4.1 Introduction

This section discusses the influence of the type of evidentiality expressed by the adverb on its distribution within noun phrases. In Section 5.4.2, we first present a classification of evidentiality types found in FDG. Then, in Section 5.4.3 we show how these types manifest themselves in the corpus and discuss the results.

²⁶ There were slightly fewer than 1,000 instances of *purportedly* adverbs in the NOW corpus.

5.4.2 Evidentiality in Functional Discourse Grammar

To analyse the co-occurrence of the adverbs with adjectives, it is necessary to adopt categorisation schemes for both parts of speech. We start here with the categorisation of the adverbs themselves. Table 1 (Chapter 3, Section 3.5.7), shows the FDG categorisation for the evidential adverbs investigated. As seen in Table 1, there are four evidential subcategories: reportative, inference, deduction and event perception (Hengeveld & Hatthner 2015). These are illustrated in the following examples (reflecting instances in Chapter 3), in which the evidentials are used at clause level.

- (6) He was *reportedly* going to emigrate.
- (7) He has *presumably* decided to leave.
- (8) He was *clearly* not feeling too well.
- (9) He was *visibly* cross-eyed.

Table 1. *FDG classification of evidential -ly adverbs in main clauses*

<i>FDG Levels:</i>	<i>Interpersonal Level</i>	<i>Representational Level</i>		
<i>Evidential adverb</i>	<i>reportativity</i>	<i>inference</i>	<i>deduction</i>	<i>event perception</i>
<i>reportedly</i>	+			
<i>purportedly</i>	+			
<i>allegedly</i>	+			
<i>supposedly</i>	+			
<i>evidently</i>	+	+		
<i>apparently</i>	+	+	+	
<i>presumably</i>		+		
<i>obviously</i>		+	+	
<i>seemingly</i>		+	+	
<i>clearly</i>		+	+	
<i>visibly</i>			+	+
<i>FDG Layer</i>	<i>Communicated Content</i>	<i>Propositional Content</i>	<i>Episode</i>	<i>State-of-Affairs</i>

The reportative adverb *reportedly* in (6) indicates that the information modified comes from outside the present situation, from a source other than the speaker. The inferential adverb *presumably* in (7) expresses that the information modified can be inferred from the speaker's existing knowledge. The deductive adverb *clearly* in (8) indicates that modified properties are not directly observable but are deduced from perceptual observations. Finally, the

adverb of event perception *visibly* in (9), finally, expresses that the information modified was obtained through direct perception.

Each type of evidentiality is related to a specific layer within FDG, as indicated in the last row of Table 1. Reportativity is a category at the layer of the Communicated Content, Inference at the layer of the Propositional Content, Deduction at the layer of the Episode, and Event Perception at the layer of the State-of-Affairs. Since these layers are hierarchically related, the categories of evidentiality are as well, as shown in Figure 3.

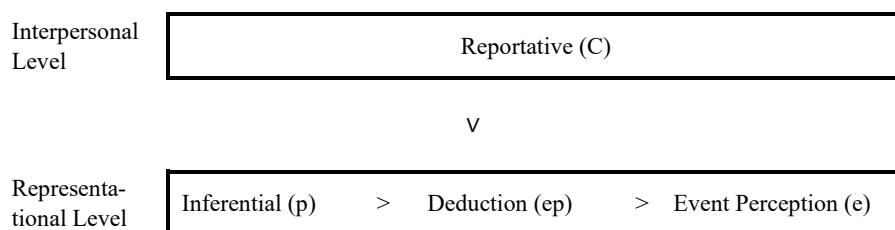


Figure 3. *Hierarchical relations between evidential categories*

Reportative evidentiality is the only type of evidentiality that operates at the Interpersonal Level, while the other three types operate at layers of the Representational Level, with a decreasing scope moving from left to right in Figure 3. Since reportative evidentiality scopes over all other three types, we may formulate the scope hierarchy in (10).

(10) reportativity \subset inference \subset deduction \subset event perception

Turning now to noun phrases, it should first be noted that all four types of evidentiality illustrated in (6)-(9) for the clausal level can also occur within noun phrases. The following examples illustrate this.

- (11) two *purportedly* independent companies (Reportativity) (17-09-17 GB)
- (12) a *presumably* lower price point (Inference) (18-06-08 GB)
- (13) a *clearly* racist gesture (Deduction) (18-06-18 GB)
- (14) a *visibly* red breast (Event Perception) (17-03-13 GB)

In (11) the reportative adverb *purportedly* expresses that the companies are independent according to a source other than the speaker; in (12) the inferential adverb *presumably* indicates that on the basis of his or her existing knowledge, the price point is likely to be lower; the adverb of deduction *clearly* in (13) expresses that it can be deduced from the perceptual properties

of the gesture that it is racist in nature; and the adverb *visibly* in (14) is used to indicate that the redness of the breast was perceived directly.

Not only can all four types of evidentiality listed above can be expressed within noun phrases, all individual adverbs listed in Table 1 are found to modify an adjective within a noun phrase. *Allegedly* is illustrated in (15), *apparently* in (16), *clearly* in (13) above, *evidently* in (17), *obviously* in (18), *presumably* in (12) above, *purportedly* in (11) above, *reportedly* in (19), *seemingly* in (20), *supposedly* in (21), and *visibly* in (14) above.

- (15) *allegedly* sexist remarks (Reportativity) (18-05-18 GB)
- (16) an *apparently* slim advantage (Inference) (18-06-24 GB)
- (17) an *evidently* proud man (Deduction) (16-11-19 GB)
- (18) the *obviously* intentional similarity (Deduction) (18-06-05 GB)
- (19) their *reportedly* rocky relationship (Reportativity) (18-06-30 GB)
- (20) a *seemingly* technical change (Inference) (18-04-07 GB)
- (21) Mr Corbyn's *supposedly* 'left wing populist' branch of politics (Reportativity) (18-04-01 GB)

As shown in Table 1, several evidential adverbs may express more than one meaning at clause level. This is also true of evidential adverbs within noun phrases. This polyfunctionality of adverbs is illustrated here with the following examples, taken from the sample, of the uses of *apparently* and *visibly*, which can each be used in three different ways. *Apparently* is considered here first.

- (22) an *apparently* animate being (Deduction) (18-06-20 GB)
- (23) an *apparently* slim advantage (Inference) (18-06-24 GB)
- (24) an *apparently* 'populist' government (Reportativity) (18-05-24 GB)

In (22), the animateness is deduced on the basis of perceptual evidence, whereas in (23) the fact that an advantage is slim cannot be deduced from perceptual evidence, but it may be estimated on the basis of one's existing knowledge. The quotation marks in (24) show that in this case the information presented is from a source other than the speaker.

Turning now to *visibly*, the following examples show a somewhat different spread of functions.

- (25) a *visibly* red breast (Event perception) (17-03-13 GB)
- (26) *visibly* contaminated bits of the carcass (Deduction) (17-02-19 GB)

(27) a *visibly* dysfunctional scheme (Inference) (17-10-12 GB)

In (25) the redness of the breast is presented as directly perceived by the speaker. The contamination in (26) cannot be directly perceived, but may be deduced from perceptual evidence, such as the colour and smell of bits of the carcass. In (27), finally, the dysfunctionality of an abstract scheme may not be deduced from perceptual evidence, but it may be inferred on the basis of the speaker's existing knowledge concerning the functionality of schemes.

5.4.3 Types of evidentiality in the sample

Table 2 shows which types of evidentiality are expressed by the different adverbs within noun phrases in the sample. This table shows that some of the uses of adverbs that were attested in main clauses, as listed in Table 1, were not attested in noun phrases in the sample. This concerns the deductive use of *obviously*, the deductive use of *seemingly*, and the inferential use of *clearly*. The other way around, reportative *seemingly*, inferential *visibly* and deductive *evidently*, which were not attested in main clauses (Chapter 3), were found in noun phrases.

Table 2. *FDG classification of evidential -ly adverbs in noun phrases*

<i>FDG Levels:</i>	<i>Interpersonal Level</i>		<i>Representational Level</i>	
<i>Evidential adverb</i>	<i>reportativity</i>	<i>inference</i>	<i>deduction</i>	<i>event perception</i>
<i>reportedly</i>	3			
<i>purportedly</i>	25			
<i>allegedly</i>	19	1		
<i>supposedly</i>	145	3		
<i>evidently</i>	2	5	3	
<i>apparently</i>	14	10	5	
<i>presumably</i>		9		
<i>obviously</i>		5		
<i>seemingly</i>	2	54		
<i>clearly</i>			5	
<i>visibly</i>		2	33	1
<i>FDG Layer</i>	<i>Communicated Content</i>	<i>Propositional Content</i>	<i>Episode</i>	<i>State-of-Affairs</i>

When we turn now to the quantitative distribution of evidential adverbs modifying adjectives in terms of the classification presented above, a striking pattern arises. As shown in Table 3, the number of cases decreases sharply

along the scope hierarchy presented in (10).

Table 3. *Distribution of types of evidentiality in the sample*

<i>Evidentiality type</i>	reportativity	inference	deduction	event perception
<i>Number of cases</i>	210	89	46	1

The question is how this distribution could be explained. The explanation that we propose has to do with the kind of evidence that is required for different evidentiality types. There are only few qualities expressed by adjectives that can be directly perceived in event perception: only physical properties of objects can be directly perceived. It is therefore no surprise that the only example in the sample concerns colour:

(28) a *visibly* red breast (17-03-13 GB)

Mélaç (2014: 185) notes that *visibly* most often indicates an element of deduction, which is what we found in the data as well. Deduction is slightly less restrictive than event perception, as it may modify all properties that can be deduced from perceivable properties, while those properties cannot be perceived directly, as in the following examples:

(29) their *visibly* dangerous riding (17-04-04 GB)

(30) a *clearly* racist gesture (18-06-16 GB)

Danger and racism cannot be directly perceived, but manifestations, such as high speed or the nature of a gesture, can be. The range of properties that can be deduced is therefore higher than that of those that can be directly perceived.

Inference is even less restrictive, as no perception is required to arrive at an inference. The following examples illustrate this:

(31) *presumably* final chapter (17-12-18 GB)

(32) *seemingly* conflicting accounts (18-06-14 GB)

There is nothing in the physical appearance of a chapter that allows one to deduce that it is final: it is only existing knowledge that may lead to such a conclusion. Similarly, accounts do not have physical properties that can be perceived, so the fact that they are conflicting has to be inferred on the basis of existing knowledge.

Finally, reportativity is least restrictive, as anything someone else has

said or written or is generally maintained may be reported. Examples (33)-(34) illustrate this:

- (33) the *supposedly* "peaceful" West Bank (18-05-20 GB)
 (34) an *apparently* "populist" government (18-05-24 GB)

In (33), the speaker is attributing the property *peaceful* to the West Bank, yet is not committing him/herself at all to this attribution. To the contrary, by using the evidential adverb *supposedly* to report a view of the West Bank expressed elsewhere, the speaker adds the implicature that the property peacefulness is being questioned. Furthermore, the quotation marks mean that, all properties may be attributed to someone else, including the non-deductible or non-inferable ones. Similarly, in (34) the property *populist* is reported rather than inferred.

The layered structure in FDG may be said to represent a scale from more concrete at the lowest layers to more abstract at the highest layers. This is reflected in the combinatorial properties of evidential adverbs pertaining to the different layers, as illustrated above.

5.5 Types of modification

5.5.1 Introduction

This section studies the influence of the type of modification that is being executed by the adjective modified by the evidential adverb. In Section 5.5.2 we first present a classification of modification types in FDG. Section 5.5.3 then shows how these types manifest themselves in the corpus. In this section, we also discuss these results.

5.5.2 Types of modification in the noun phrase in Functional Discourse Grammar

In terms of the formalism presented in Section 5.2, a noun phrase used referentially is built on the template given in (35) (see Van de Velde 2007, Butler 2008, Hengeveld 2008, Rijkhoff 2008):

- (35) IL: $(R_1: [...] (R_1): \Sigma^R (R_1))$
 RL: $(\alpha_1: (f: \text{Lex} (f_1): \sigma^f (f_1)) (\alpha_1): \sigma^\alpha (\alpha_1))$

At the Interpersonal Level, the noun phrase corresponds to a Referential Subact (R_1). At the Representational Level, it corresponds to an entity, here

represented as (α) , which is a variable ranging over different layers. This entity is characterized by a Property (f_1), which corresponds with the head noun of the noun phrase. All three layers mentioned here can be modified by means of grammatical or lexical modifiers, of which only the latter is of interest to us here. The Referential Subact, as a whole, can be modified by the modifier Σ^R . This is called R-modification. Modifiers of this type express subjective evaluations of the referent by the speaker. The entity referred to can be modified by means of the modifier σ^a , which indicates a second property of that entity, in what is called α -modification. The Property of that entity can be modified by means of the modifier σ^f . This modifier provides a second property of the nominal Property of the referent in so-called f-modification.

A constructed example such as (36) can then be represented as in (37), in which the entity type is (x), for Individual.

(36) my poor (Σ^R) unhappy (σ^a) skillful (σ^f) surgeon (f_i)

(37) IL: (R₁: [...]) (R₁: poor (R₁))

RL: (x_i: (f_i: doctor (f_i)) (f_j: skillful (f_j)) (f_i)) (x_i: (f_k: unhappy (f_k)) (x_i))

By means of the adjective *poor*, which expresses R-modification, the speaker expresses his/her empathy for the referent of the noun phrase. The adjective *unhappy*, which expresses α -modification, provides a second property of the referent: the referent is both a surgeon and unhappy. The adjective *skillful*, which expresses f-modification, has a more limited scope: the entity referred to is not both a surgeon and a skillful person, the skillfulness is limited to the referent being a surgeon. It is thus the surgeonhood as a property that is modified by the adjective *skillful*.

Thus, three types of modification can be distinguished in FDG. The latter two, exemplified by *unhappy* and *skillful* above, correspond to what Bolinger (1967) calls "referent modification" and "reference modification", respectively. Referent modification, as defined by Bolinger (1967: 22), is the "product of conjunction". Both the head noun and the adjective contribute to the identification of the referent of the noun phrase. Thus, the person referred to in (36) is both a surgeon and unhappy. In reference modification, on the other hand, the adjective depends on the noun for explication (Siegel 1976): a person who is an experienced carpenter is not necessarily an experienced person in general terms, as he or she may not be an experienced surgeon or baker. Thus, the person referred to is not both a surgeon and skillful, but rather skillful as a surgeon, not necessarily skillful in any other capacity. These two types of modification, referent modification and reference modification, are

therefore also characterized as 'intersective' and 'subsective', respectively (see e.g. Morzycki 2016). In FDG there is a third type of modification in FDG, which is speaker bound, such as that expressed by *poor* in (36) or evidential adjectives such as *alleged* and *purported*, illustrated in (38)-(39) (see also Van de Velde 2007), is also known as 'non-subsective' in the literature (Morzycki 2016: 23; García Velasco 2022).

(38) *the alleged murderer*

(39) *the purported author*

5.5.3 Types of modification in the sample

Turning now to the corpus data, Table 4 shows how the various types of modification co-occur with the different types of evidentiality discussed in Section 5.4.

Table 4. *Types of modification in the corpus*

	Reportativity	Inference	Deduction	Event perception	Total
R-modification	0	0	0	0	0
α -modification	185 (88.1%)	85 (95.4%)	46 (100%)	1 (100%)	317
f-modification	25 (11.9%)	4 (4.6%)	0 (0%)	0 (0%)	29
Total	210	89	46	1	346

Table 4 shows, first of all, that R-modifying adjectives are never modified by evidential adverbs in the sample. This makes sense, as R-modifiers are speaker bound: they express a personal assessment of the speaker, which is not based on external evidence but on the speaker's emotions or personal feelings such as empathy expressed in *my poor surgeon fell ill once again*. However, when *poor* is preceded by an evidential adverb, as in (40), a property assigning reading is triggered.

(40) *my visibly/clearly/seemingly/reportedly poor surgeon*

A second fact that stands out in Table 4 is that in the sample reportativity and inference combine with reference-modifying adjectives, but deduction and event perception do not. Two examples of reportative evidentials combining with reference-modifying adjectives are given in (41)-(42), and two of inferential evidentials in (43)-(44)

- (41) *supposedly* political comedians (18-05-17 GB)
- (42) the *supposedly* pescatarian predators (18-01-13 GB)
- (43) the *seemingly* prosaic function (18-06-18 GB)
- (44) an unorthodox, *seemingly* militant movement (18-03-06 GB)

Note that in the case of reportativity, with four exceptions it is always the evidential *supposedly* that combines with a f-modifying adjective. In the case of inference, in three out of the four cases, it is the adverb *seemingly*.²⁷

To further explain the distribution in Table 4, we note that the nature of the evidential adverb must match the properties expressed by the modifying adjective. If properties are inherent and permanent as is the case with the reference-modifying adjectives shown in (41)-(44), those properties are often not as easily perceivable as contingent properties. Given that perception forms the basis for deduction and event perception, the co-occurrence of these adjectives with adverbs of deduction and event perception is often less acceptable, as shown in (45)-(48):

- (45) ?*visibly* political comedians
- (46) ?the *visibly* pescatarian predators.
- (47) ?the *visibly* prosaic function
- (48) ?an unorthodox, *visibly* militant movement

Thus, the non-occurrence of adverbs of deduction and event perception with reference-modifying adjectives in the sample seems to follow from the fact that these adjectives generally express permanent properties.²⁸ We will go into the influence of the permanent and contingent meaning of adjectives in the next section.

²⁷ The evidential adverbs combining with f-modifying adjectives are *apparently* in its reportative use (1 case), *evidently* in its inferential use (1 case), *purportedly*, which only has a reportative use (3 cases), *seemingly* in its inferential use (3 cases), and *supposedly* in its reportative use (21 cases).

²⁸ Note that this is a tendency rather than a rule. An anonymous reviewer pointed us to examples such as *visibly gay man* and *visibly religious man* that can be found in the COCA corpus, which contains texts in US English, and *visibly dead tree* and *a visibly old university*, which can be found on the internet.

5.6 Permanent and contingent properties

5.6.1 Introduction

In this section and the next one, we study the influence of the type of adjective that is being modified by the evidential adverb on the distribution of the latter within noun phrases. In this section we study the influence of the permanent or contingent meaning of the adjective on its combinatorial properties with evidential adverbs. The previous section has shown the relevance of this distinction already, but in this section we will look at this factor in more detail. In Section 5.6.2. we first present the treatment of the opposition between these two adjective classes in FDG, while in Section 5.6.3 we look at their distribution within the sample and the results.

5.6.2 Permanent and contingent properties in FDG

In FDG the distinction between permanent and contingent properties is given special treatment (Hengeveld & Mackenzie 2008: 137). A distinction is made into two types of Property (f), as shown in (49)-(50).

(49) (^pf_i) permanent Property

(50) (^cf_i) contingent Property

By means of a subscript preceding the Property variable (f), two subclasses of Property are defined for those languages in which such a distinction is relevant. One such language is Spanish. In this language, the choice of a copular verb with predicative adjectives crucially depends on this distinction. Hengeveld & Mackenzie (2008: 137) provide the following examples:

(51) La chica es guap-a.
DEF.F.SG girl COP.PRS.3.SG pretty-F
'The girl is pretty.'

(52) La chica está guap-a
DEF.F.SG girl COP.PRS.3.SG pretty-F
'The girl looks pretty.'

With the copula *ser* in (51), the property is presented as permanent, in (52), with the copula *estar*, as contingent.

5.6.3 Adjectives expressing permanent and contingent properties in the sample

While taking into account the context of use, the adjectives in the sample were classified according to whether they express a permanent or a contingent property. As is clear from the examples from Spanish in (51) and (52), one and the same adjective may be used in different ways, depending on the context. Out of context, the following example is ambiguous:

(53) the *apparently* good-hearted Frank (18-05-25 GB)

One of the possible interpretations of (53) is that Frank is good-hearted by nature; the other is that he showed kindness in a particular instance. Taking into account these contextual dependencies, the adjectives in the sample may be classified as in Table 5.

Table 5. *Adjectives expressing permanent and contingent properties in the sample*

	reportativity	inference	deduction	event perception	Total
Contingent	49 (23%)	28 (31%)	46 (100%)	1 (100%)	124
Permanent	161 (77%)	61 (69%)	0 (0%)	0 (0%)	222
Total	210	89	46	1	346

As shown by Table 5, in our sample, adverbs of deduction and event perception never combine with adjectives expressing permanent properties. The perceptual process that is the basis for these evidential categories, registers change and hence combines more easily with contingent properties, not permanent properties. In the previous section, we already showed this to be the case for many reference-modifying adjectives, which generally express permanent properties. The following examples show that the same holds for referent-modifying adjectives expressing permanent properties.

(54) my *evidently*/?*visibly* privileged background (18-02-27 GB)

(55) China's *seemingly*/?*visibly* insatiable desire for commodities (18-02-23 GB)

The adjectives *privileged* and *insatiable* indicate permanent properties in their context of use, in which they are combined with the inferential adverbs *evidently* and *seemingly*. Replacing these adverbs by the adverb of deduction *visibly* seems unnatural, as permanent properties are not easily deduced on a

particular occasion. For the same reason, the following constructed example in most circumstances does not make sense:

(56) ?a *visibly* stone building

We thus find that the permanent nature of adjectives, whether they are reference-modifying (Section 5.5) or referent-modifying (this section), makes them unlikely candidates to be combined with adverbs used with the meaning of deduction or event perception.

5.7 Descriptive and evaluative adjectives

5.7.1 Introduction

This section takes a second perspective on the type of adjective modified by an evidential adverb and the way it influences the distribution of the latter within noun phrases: that of the descriptive or evaluative nature of the adjective. In Section 5.7.2 we first present a classification of types of adjectives based on Farsi (1968) and relate it to earlier work in FDG. Section 5.7.3 then shows how these types manifest themselves in the corpus and discuss these results.

5.7.2 Types of adjectives in Functional Discourse Grammar

Work on adjective types in FDG has mainly been carried out by Rijkhoff (2002, 2008). In this section, we are interested in this section more specifically in what Rijkhoff calls qualifying adjectives. As Rijkhoff (2008) notes, several classes may be distinguished within the group of qualifying adjectives; he distinguishes between a more objective/permanent class and a more subjective/temporary class. The distinction is relevant for ordering phenomena within the noun phrase as illustrated in the following examples (Rijkhoff 2008: 75):

(57) *Where did you buy that beautiful round table?*

(58) **Where did you buy that round beautiful table?*

As these examples show, the objective adjective *round* occurs closer to the head noun than the subjective adjective *beautiful*, and this represents a strong tendency.

A similar distinction is made in Farsi (1968), also referred to by Rijkhoff (2008). Farsi distinguishes between two classes of adjectives in

English, an A and a B class, the A class being generally descriptive in nature, the B class generally evaluative. Farsi's B class corresponds to Rijkhoff's subjective class, but his A class includes both Rijkhoff's objective class of qualifying adjectives and Rijkhoff's classifying class. In this section, we are only interested in qualifying adjectives, and will return to classifying ones below. Farsi uses various tests to show that his descriptive and evaluative classes behave differently in English grammar. Apart from the ordering restrictions illustrated in (57) and (58), the tests concern, firstly, the form of the adjective when negated. The negative prefix for descriptive adjectives is *non-*, as in *non-verbal*, while evaluative ones may take *un-*, *in-* or *dis-* as in *unkind*, *inconsistent*, and *disrespectful*. Furthermore, evaluative adjectives can generally be qualified by *very*, as in *very kind*, *very inconsistent*, and *very respectful*, while descriptive ones generally cannot, as shown by *?very verbal*.

We use Farsi's classification here, as it allows for a straightforward classification based on objective criteria. While there are exceptions in both directions when applying this classification, overall Farsi's classification provides a good basis for the distinction between evaluative and descriptive adjectives.

5.7.3 Types of adjectives in the sample

In this section, we use the criteria provided by Farsi (1968) to classify the adjectives in the sample. As mentioned above, we restrict ourselves to the ones that are qualifying in nature. There are furthermore some adjectives that are not classifiable in either of the two classes defined by Farsi, including adjectives of color, age, and place. Excluding these adjective tokens, the total number of relevant cases is 332.

In Table 6, we cross-classify Farsi's (1968) adjective classes with the classes of adverbs studied in Section 5.4.

Table 6. *Types of adjectives and evidentiality type*

	Reportativity	Inference	Deduction	Event Perception	Total
Descriptive (A)	66 (31.7%)	22 (28.6%)	3 (6.4%)	0	91
Evaluative (B)	142 (68.3%)	57 (71.4%)	42 (93.6%)	0	241
Total	208	79	45	0	332

Table 6 shows is that the number of evaluative adjectives that is modified by an evidential adverb of deduction is remarkably high. Some representative examples are as follows.

- (59) the *visibly* distressed man (17-04-11 GB)
- (60) the *clearly* delighted audience (18-06-18 GB)
- (61) an *evidently* proud man (16-11-19 GB)

Particularly remarkable is the presence of 24 (out of 42) instances of proper names with an indefinite article and an adjective expressing emotions and feelings of someone other than the speaker/writer, which are modified by an evidential adverb of deduction. An example is (62).

- (62) a *visibly* unhappy Paulo (17-02-23 GB)

The adverb *visibly* used deductively occurs very often in this configuration, but there are also instances with the deductive use of the adverbs *clearly* and *apparently*:

- (63) a *clearly* ecstatic then-Princess Elizabeth (18-06-01 GB)
- (64) an *apparently* shocked Dom (18-05-04 GB)

The B-adjectives that occur with deductive adverbs in the sample are the following: *affected, agitated, angry, awkward, contaminated, dejected, delighted, distressed, emotional, ecstatic, favourable, frustrated, good-hearted, happy, high, hurt, intentional, irate, jolly, nervous, pained, proud, shocked, sickened, stressed, stunned, supportive, uncomfortable, unhappy, unnerved, upset*. Note that all these adjectives tend to denote temporary states. As we showed in the previous section, adverbs of deduction and event perception are not used in our sample with adjectives expressing permanent properties, only with those expressing temporary properties. The larger number of cases of deduction with type B adjectives may thus be a result of this. For event perception, we have no way of verifying this, as there is only one example of this in the entire sample. But note that in this example, repeated in (65), the adjective expresses a temporary property as well.

- (65) a *visibly* red breast

We would not expect the use of *visibly* in cases in which the redness is a known permanent property, say, of a robin, as in (66).²⁹

²⁹ We thank an anonymous reviewer for pointing us to this example.

(66) ?a *visibly* red-breasted bird

Cases like (62)-(64), in which the evaluative adjective modifies a proper name, seem to be responsible to a great extent for the larger proportion of combinations of a deductive evidential adverb with an evaluative adjective. Note that when the indefinite article is used with an evaluative adjective and a known proper name as in *an angry Blair* a contrastive state is evoked. The combination of the article together with the evaluative adjective serves to mark an emotion on a particular occasion that contrasts with states of mind at other times. Vandelanotte & Willemse (2002: 18) point out that the indefinite article used in phrases such as *an angry Blair* “designates manifestations or “images” of a more temporary nature.” This fleeting image is supported by the deductive evidential adverb as in *a visibly unhappy Paolo*, which not only ties the description to a moment in time, but also presents a subjective view expressing a conclusion drawn from observation.

Thus, we find once more that the specific behaviour of adverbs of deduction is closely related to the fact that the adjectives involved express contingent properties.

5.8 Restrictiveness

5.8.1 Introduction

In this section, we focus on the influence of the restrictiveness of the adjective modified by the evidential adverb. In Section 5.8.2 we first present a classification of restrictiveness types in FDG. Section 5.8.3 then shows how these types manifest themselves in the corpus. In this section we also discuss these results.

5.8.2 Restrictiveness in Functional Discourse Grammar

The (non-)restrictiveness of adjectives can be illustrated by means of the following examples. Example (68) is taken from Keizer (2019: 2).

- (67) Only friendly people are welcome here.
 (68) Our friendly staff is here to make sure that you have an outstanding experience.

In (67) the adjective *friendly* restricts the set of people to those who are friendly. In (68), on the other hand, *friendly* does not restrict the set of staff members, which is delimited sufficiently already by the possessive modifier

our; it just provides an additional attribute to the staff members already identified otherwise. Martin (2014: 38) describes (non-)restrictive modification as follows: “a modifier M restrictively modifies the head H when the contextual set of objects MH denoted by the modified head MH is properly included in the contextual set of objects denoted by H” and “M nonrestrictively modifies H if the contextual set of objects denoted by H equals the contextual set of objects denoted by MH.”

In our FDG-representations so far, adjectives in general terms have been represented as restrictive, as indicated by the colon in the representation of the noun phrase *friendly people* from example (67):

(69) (x_i : (f_i : people (f_i)) (x_i): (f_j : friendly (f_j)) (x_i))

Keizer (2019) notes that non-restrictive adjectives constitute separate propositional contents, as they are not sensitive to the truth conditions of the main propositional content. The technical details of her analysis are not immediately relevant for our point here (see García Velasco 2022).

5.8.3 Restrictiveness in the sample

In Table 7, we cross-classify restrictiveness with the classes of adverbs studied in Section 5.4. Note that restrictiveness is not a property of the adjective, but rather a property of the use of that adjective in a specific context. Thus, as shown above, the adjective *friendly* is restrictive in (66) and non-restrictive in (67). Example (70), taken from Matthews (2014:168), shows that out of context an adjective may be ambiguous as to its restrictiveness. Example (70) could refer to all the people of Ruritania or just part of the population.

(70) the desperate people of Ruritania

Table 7. Restrictiveness and evidentiality type

	Reportativity	Inference	Deduction	Event Perception
Restrictive	165 (78.6%)	69 (77.5%)	16 (34.8%)	1 (100%)
Non-restrictive	45 (21.4%)	20 (22.5%)	30 (65.2%)	0 (0%)
Total	210	89	46	1

Two examples of evidential adverbs combining with restrictive adjectives are

given in (71)-(72), with non-restrictive adjectives in (73)-(74):

- (71) their *presumably* favourite rockstar (18-04-20 GB)
- (72) a *purportedly* imperiled culture (17-08-19 GB)
- (73) another *supposedly* privileged community (17-10-25 GB)
- (74) his *allegedly* shopaholic wife (18-05-22 GB)

It is immediately clear from Table 7 that there is a high proportion of cases in which an adverb of deduction combines with a non-restrictive adjective. Some relevant cases are given in (75) and (76), where the non-restrictive reading goes hand in hand with the presence of the definite article:

- (75) the *visibly* distressed woman (17-03-06 GB)
- (76) the *clearly* delighted audience (18-06-18 GB)

The relevant group of examples includes the 24 cases in which a proper name is modified as mentioned in Section 5.7.3. Two relevant examples are given in (77) and (78), which occur in a non-contrastive context:

- (77) a *visibly* emotional Emmanuel Macron (17-12-28 GB)
- (78) a *clearly* ecstatic then-Princess Elizabeth (18-06-11 GB)

Thus, it seems that the frequent collocation of an adverb of deduction with an (evaluative) adjective modifying a proper name is again responsible for this distribution. As noted above, the adjectives involved tend to denote temporary properties, so that there is once more a clear connection here between deduction and temporary properties.

5.9 Pragmatic effects of evidentials in noun phrases

5.9.1 Introduction

We have shown above that there is considerable interaction between the elements of a noun phrase in terms of their semantics. For example, the nature of subjective adjectives limits the co-occurrence with certain types of evidential meaning (Section 5.6.3), and in our sample, adverbs of deduction and event perception only combine with adjectives expressing a temporary state (Section 5.7.3). In the present section, we turn to pragmatic aspects, discussing rhetorical strategies involving reportative, inferential and deductive adverbs. The one example of an adverb of event perception within

a noun phrase that we encountered does not reveal any rhetorical usage.

5.9.2 Reportatives

There are only two cases of *reportedly* in noun phrases in the corpus. Two other reportative adverbs, *purportedly* and *supposedly*, are often used to accompany a view held more generally by others yet called into question by the speaker. This is not the case in the two instances of *reportedly* in the sample, one of those is the one illustrated in (79). In this case the irreversibility of Ronaldo's decision is not called into question by the current speaker, but merely reported.

- (79) Ronaldo, fresh from proving he IS the best player on the planet in Portugal's World Cup thriller against Spain, linked with a sensational return to Manchester United. That's what Italian newspaper Libero is reporting with French giants PSG also lurking after Ronaldo's *reportedly* "irreversible" decision to leave Real Madrid. The report states the 33-year-old will be on the move after the World Cup. Financial fair play rules could rule out the Paris side from making a move and that could open the door for United. (18-06-18 GB)

In other cases in which the adjective following a reportative adverb is within quotation marks, as is *neutral* in (80), the reportative and the context not only call into question the applicability of the adjective in ascribing the property to the noun, they can also carry an implicature of cynicism. For a similar effect of the reportative in American Spanish, see Olbertz (2022) and references therein.

- (80) Former senior members of our *supposedly* "neutral" Civil Service have been rolled out in recent days to liken Brexit supporters to "snake oil salesmen" simply because we want to restore Britain as a self-governing democracy. (18-02-08 GB)

As such, the writer does not concur with the adjective's use in this context (Fox 2001). In this cynical use, the adjective *neutral* becomes prosodically prominent. This effect is also seen without the use of quotation marks as in (81), in which *civilized* becomes prosodically prominent.

- (81) As Stubble may well know, foods are imported from countries where people, including children, are literally starving to death, foods that these starving people need and could eat direct, which are instead fed to food animals in the *supposedly* civilized west, to fatten them up, so that *supposedly* civilized people can then eat them. (18-04-28 GB)

The reportative can thus be used for creating a rhetorical effect. Consider example (82) from our sample, a letter to a newspaper. The reportative adverb *purportedly* appears to disrupt the fixed nature of the combination of the adjective *United* with the noun *Kingdom*, which then forms a regular adjective noun combination, implying a *divided kingdom*. As such, *united* is used in its regular meaning and the combination of the reportative adverb with this adjective conveys cynicism about the union of the UK nations.

- (82) The entirely repugnant and offensive remarks by the Great Donald are irrelevant by reason of their nonsense. What is relevant is that he felt able to say such appalling things to the Prime Minister of the *purportedly* United Kingdom. That is where this incompetent Government has dragged us. # Let me be clear. I am a Scot and treasure my European passport. (17-11-30 GB)

Furthermore, the reportative *purportedly* has a focusing effect, which is associated with restrictiveness and a change in stress pattern. Without the modifying adverb, the primary stress of the collocation *United Kingdom* [jʊˌnaɪ.tɪdˈkɪŋ.dəm] falls on [kɪŋ] and secondary stress on [naɪ] (Cambridge Dictionary Online). When preceded by the adverb *purportedly*, the adjective *united* [jʊˈnaɪ.tɪd] receives primary stress, which is a focusing effect. The same focusing effect occurs with collocations that are not proper nouns such as the one in (81).

5.9.3 Inference

Evidential inferential adverbs can also be used to create a rhetorical effect. The adjective can suggest that a particular description holds, while the context can describe a contrasting situation. Mélac's (2014) discussion of evidential adverbs in clauses is also applicable to noun phrases. In the case of inferential *seemingly*, the speaker is not necessarily convinced of the meaning of the adjective but uses it to emphasize the discrepancy between an impression and reality. (Mélac 2014: 273).

Inferential *seemingly* occurs in a film review of the *Den of Thieves* (83). The use of *seemingly impossible* leads the reader to question the word *impossible* and think that maybe the heist was indeed possible. (The review does not reveal whether the heist took place, but in the film, it did.)

- (83) When the city's most successful group of robbers, led by ruthless ex-soldier and freshly-paroled Ray Merrimen (Pablo Schreiber), start to plan a *seemingly* impossible heist on the supposedly impenetrable Federal Reserve (18-02-02 GB)

In contrast, inferential *obviously* strengthens the meaning of the adjective in (84) expressing that, in the opinion of the speaker, the arguments were completely *misleading*. Mélac (2014: 279) suggests that, unlike other evidential adverbs, *obviously* carries an inference of full conviction.

- (84) Last week he overstated our negotiating strength in an *obviously* misleading way by claiming that the EU was under pressure to strike a deal. (18-06-02 GB)

In contrast, inferential *presumably* does not have a rhetorical effect, it simply reflects that the speaker has entertained this thought:

- (85) The *presumably* now-greatly-embarrassed Riggs has portrayed Carl Grimes, son of series lead Rick Grimes (Andrew Lincoln), since he was 11 years old. (17-12-11 GB)

There are relatively few instances of *presumably* in noun phrases in the data. This could well be because it can be ambiguous. In (86) it could be the writer who is presuming that the future directors will be wealthy ones, but it could also be that the fans reckon that the directors will have this property.

- (86) Yesterday's announcement by King of a share issue provoked groans among many Rangers fans, as they had been seeking new external investment, reckoning that the mysterious departure of directors Paul Murray and Barry Scott would allow new and *presumably* wealthy directors on to the board. (18-05-07 GB)

As shown in (87), inferential adverbs also have a focusing effect, resulting in a stress shift:

- (87) A male student was taken into custody, a seventeen-year-old officials have described as having an *apparently* clean slate before the massacre. (18-05-18 GB)

So rather than having the regular primary stress on *slate*, as in [ˌkli:n 'sleɪt], primary stress shifts to the adjective *clean*, as in ['kli:n ,sleɪt].

5.9.4 Deductives

In a similar way to the inferential adverb *seemingly*, deductive *seemingly* is used as a rhetorical tool to trigger a contrast to what then proves to be the case. In the description of one of the football goals, Messi's skillfulness is stressed by contrasting a first impression with an alternative state (Mélac 2014: 273).

- (88) The first time Lionel Messi stuck the ball through Thibaut Courtois's legs from a *seemingly* impossible angle it was possible to fool yourself that, well, he might have got a little fortunate there. (18-03-14 GB)

Similarly, in a review of travel to Madeira, we read in (89) that the angles at which vegetable plots are located are *seemingly impossible*. The writer expresses the impression of the impossibility of using such steep plots of land but informs the reader that they are, in fact, used and harvested.

- (89) Their tiny farmhouses cling to the mountain sides, alongside vegetable plots at *seemingly* impossible angles. ... All are harvested by hand; no machinery can operate on plots at near 90-degree angles. (18-04-05 GB)

In (90), too, *seemingly* is deductive and helps to create a discrepancy between the view of the Wolds, which gives an impression of *peacefulness*, and stories about werewolves, vampires, dragons and other mysterious creatures roaming in the area.

- (90) The Yorkshire Wolds may be home to rolling green hills, hidden valleys and ancient villages, but this *seemingly* peaceful stretch of Yorkshire is harbouring a much darker side behind its picture perfect appearance. (18-02-27 GB)

As with reportatives and inferentials, there can be a stress shift when a deductive evidential is used before a collocation. In *seemingly drunk driver* in

(91) the main stress is on the word drunk: ['drʌŋ.k ,draɪ.vər] whereas without the adverb, it would be on the first syllable of driver.

(91) The vehicle bounced off the concrete barrier and stopped in the middle of the street. Before the man, identified as 61-year-old Manuel Rodriguez-Rojas, could drive away, Lewis is seen in a Snapchat video hopping out of his car to confront the *seemingly* drunk driver. (18-03-02 GB)

5.10 Conclusions

This chapter has explored the distribution and use of evidential *-ly* adverbs in English noun phrases, using Functional Discourse Grammar as a descriptive framework. Evidential adverbs are unlike other adverbs used within noun phrases in that they display the same meaning within the clause and the noun phrase. We have shown that there is a robust effect of the FDG evidentiality hierarchy on the distribution of evidential adverbs within noun phrases. Reportative adverbs, at the highest end of the hierarchy, are most frequently found modifying adjectives in noun phrases, inferential adverbs are the next highest in frequency, followed by adverbs of deduction and event perception, the latter being used very infrequently in noun phrases. A second generalization that follows from our study is that adjectives that express the attitude of the speaker are never modified by evidential adverbs. Thirdly, and importantly, we have shown that adjectives expressing permanent properties tend not to be modified by adverbs of deduction and event perception, while they are modified by reportative and inferential adverbs. This has an indirect effect on the distribution of adverbs with restrictive versus non-restrictive adjectives and with evaluative versus descriptive adjectives. The latter two parameters do not seem to be of independent importance in understanding the distribution of evidential adverbs in noun phrases, as in both cases their distribution can also be explained from the influence of the adjective expressing a permanent or contingent property. Finally, we have shown that the use of evidential adverbs in noun phrases can have the rhetorical function of cynicism, that is, there is a contrast between the reported, inferred, and deduced information and the stance of the current speaker. In certain cases, this may also lead to a shift in stress. In all, our results point especially to the relevance of the hierarchical organization of evidential modification in FDG, both as regards the (quantitative) distribution of evidential adverbs within noun phrases, and as regards the distribution of evidential adverbs across

adjectives of different hierarchical types.

6 Conclusion

6.1 Introduction

In this thesis, the FDG hierarchical layers which have previously been shown to capture grammatical items expressing evidentiality, are used to describe and analyse lexical evidential *-ly* expressions in English. Evidential adverbs are viewed throughout the thesis as expressing the knowledge base from which information is sourced. The hierarchical structure of FDG, with its division in levels, and layers within levels, has allowed certain predictions to be formulated regarding the distribution and behaviour of these adverbs. The current analysis shows that the FDG layers used previously for the analysis of grammatical evidentials items can also be used for the analysis of lexical evidential modifiers.

6.2 Predictions and results

The five predictions stated in the introduction are repeated here. Following each prediction are the results of testing them on either constructed examples (Chapter 2) or on the collated instances of UK English *-ly* evidential adverbs occurring in the NOW corpus (Chapters 3-5).

Prediction 1. Reportative evidentials behave differently from other *-ly* evidential adverbs as they are the only type of evidential adverb on the Interpersonal Level

The predicted difference between the reportative evidential, which is on the Interpersonal Level, and other evidential categories, which are on the Representational Level is supported by the data presented in Chapter 2. It is shown there that the truth conditions for these two types of evidential adverbs are different, and that the reportative can be denied by the speaker whereas the Inferential, Deductive and the expression of Event Perception cannot be. This finding supports the distinction made in FDG between the Interpersonal Level, concerned with pragmatics, and the Representational Level, concerned with semantics.

Prediction 2. Modifiers are expected to be contiguous, that is, they will appear in adjacent layers. This prediction arises from diachronic layer-climbing in the grammaticalization process, which means ‘a certain category may assume a function one layer up’ (Hengeveld, Narrog & Olbertz 2017: 7).

In Chapter 2, tests based on the hierarchical order within FDG have confirmed which FDG layers host which English *-ly* adverbs. It is shown in that chapter that in cases in which evidential *-ly* adverbs express more than one evidential meaning, these meanings pertain to contiguous layers in the hierarchical organization of FDG. This finding is discussed in more detail in Chapter 3. On the other hand, modifiers of different types, such as evidentials and manner adverbs do not form a contiguous pattern. In carrying out the analysis it was furthermore shown that, as for evidential adverbs with multiple meanings hosted by multiple evidential layers, the relevant meaning of the adverb was determined by the context in which it appeared. This has led to the behaviour of evidential adverbs being termed chameleon-like.

Prediction 3. As the hierarchy in the formulation layers is scopal and reflected in word order, the layer of a modifier can be tested against the surface order of modifiers or other items known to be hosted by other layers. This means that in a clause, evidential adverbs of a higher layer are predicted to precede items of a lower layer.

The FDG layer on which evidential *-ly* adverbs can be hosted depends on a match between the scope of the adverb and that of the FDG layer. In Chapter 2, I show that some *-ly* adverbs, such as *visibly*, can have a manner and an evidential meaning depending on their surface position in the clause and on the scope of the adverb. Scope is thus reflected in linear position. The chapter also shows that in clauses with two evidential adverbs of different layers, the accepted surface order of the evidentials systematically follows the order of FDG layers from highest to lowest.

Prediction 4. Different types of complement clauses, licensed by matrix complement-taking predicates requiring complements of different layers, will only host modifiers of the same layer as the complement clause or of any lower layer.

Chapter 4 shows that, as predicted, the occurrence of evidential adverbs in clausal complements is constrained by the highest layer of the complement clause required by the complement-taking predicate in the main clause. The prediction was mostly supported and always when the anchor was the subject of the matrix clause. However, during the analysis of evidentials in complement clauses, the role of the anchor of the evidential *-ly* adverb became

evident. A current speaker anchor can overrule the FDG prediction of the evidential adverb being on the same or lower layer of than the complement clause.

Prediction 5. Modifiers in the noun phrase are sensitive to the layer at which the adjective they modify operates.

From the exploratory FDG analysis of evidential *-ly* modifiers in adjective phrases in Chapter 5, the following was uncovered and made explicit. The higher the evidential in the FDG, the more frequent the occurrence of the adverb in the adjective phrase. It also shows that adjectives on the Interpersonal Level, which express empathy and attitude, are never modified by an evidential adverb. Furthermore, adjectives expressing f-modification, that is direct modification of the nominal property expressed by the head noun rather than of the individual designated by the noun phrase, are never modified by evidential adverbs involving perception, that is, deductive adverbs or adverbs of event perception. In carrying out the analysis it also appeared that an evidential adverb modifying an adjective in a noun phrase can change the stress pattern of the adjective. In addition, the evidential in a noun phrase can gain the rhetorical function of cynicism.

6.3 General conclusion

In response to the research questions, it has been shown in Chapters 2 and 3, that tests involving the layers in the scopal hierarchy and their link to linearization have been used to determine the layer to which evidential adverbs belong. The importance of the local context in determining the meaning of the adverbs became clear. In Chapter 4, it was seen that the FDG constraints on items in complement clauses limit the distribution of English evidential adverbs in such clauses. Here, too the importance of the anchor of the adverb on the distribution was observed. In Chapter 5, the permanent property of adjectives and the nominal property of the head noun in a noun phrase were seen to constrain the use of evidential adverbs.

The constraints that have emerged in usage of evidential adverbs in English clauses and noun phrases support the usefulness of the FDG hierarchy and its evidential classification. All the FDG evidential subcategories, in which the English *-ly* adverbs studied are classified, serve to signal the provenance of the information in terms of a type of knowledge base. In other words, all the types of evidential adverbs studied call upon a knowledge base, underlying one of the evidential subcategories.

The thesis has thus shown that grammatical expressions of evidentiality and their lexical counterparts behave in parallel ways. Their behaviour follows from the specific layer at which they apply, rather than from their lexical or grammatical nature.

6.4 Further research

This thesis has restricted its analysis to the distribution and behaviour of English evidential *-ly* adverbs in main clauses, complement clauses and adjective phrases in noun phrases in UK English language newspapers. The work has thus been limited to one register of one variety of English. This type of analysis could be extended to conversational data and to other varieties of English spoken in other regions of the English-speaking World.

FDG predictions could furthermore be tested and applied to explore the distribution of *-ly* evidentials adverbs in other clause types, such as adverbial clauses (1) or restrictive relative clauses (2):

- (1) Since she *presumably* never visits your country house you can safely store them in your attic. (18-01-17 GB)
- (2) ...borne out of courtesy for the witness and a degree of compassion for someone who *clearly* found giving evidence over three days a difficult matter. (18-06-27 GB)

Finally, a diachronic analysis of the development of *-ly* evidential adverbs could be carried out. The predicted and confirmed contiguous pattern of FDG layers hosting evidential adverbs layers leads to the likelihood that an FDG diachronic processes of hierarchy climbing may then well be present in the development of evidential adverbs in English (Hengeveld & Hattner 2015: 497). Similarly, the layering framework could also be applied in the study of the development of the use of evidential adverbs in child language, where the prediction would be that lower evidential adverbs are acquired before higher ones.

Summary in English

English evidential *-ly* adverbs from a functional perspective

This thesis studies the distribution of 11 English evidential *-ly* adverbs in clauses and phrases, using the theory of Functional Discourse Grammar as its descriptive framework.

Chapter 1 introduces the reader to evidentiality and to the theory of FDG, with its functional hierarchy of layers. The chapter lists the predictions that are made on the basis of FDG and the questions arising from the main aim of the research, which is to provide an analysis of the distribution and meaning of English *-ly* adverbs that express a knowledge base from which the information has been sourced. The introduction also lists the research questions and describes how each question is to be addressed in the following chapters.

Chapter 2 links the scope and semantics of evidential adverbs to their distribution in the FDG layered hierarchy. Tests drawn up on the basis of constructed examples demonstrate that these adverbs can be assigned to specific layers yet are also dependent on the local context for their meaning. Adverbs with multiple meanings show that they are of a chameleon-like nature, which means that the same adverbs can be classified into different layers depending on the local context. Furthermore, it is seen that adverbs in main clauses and complement clause have a different distribution.

It is shown that reportative evidential adverbs, which are on the Interpersonal Level, do not take the speaker's perspective, whereas the adverbs that are classified on the Representational Level all have a speaker point of view. Furthermore, the information modified by an adverb of the reportative type on the Interpersonal Level can be denied by the speaker whereas information modified by an adverb of the Representational layers cannot be denied. It is on the Representational Level that the layers hosting the remaining English evidential adverbs are located. The meanings of adverbs with more than one reading are situated on contiguous layers of the Representational Level. When two adverbs modifying different layers appear in one clause, it is seen that the order of the constituents follows the hierarchy of layers from highest to lowest, which in English is expressed by means of left-to-right ordering. Another constraint discussed in this chapter is the matching of the layer of the evidential adverb with the highest layer of the

complement clause, and the role of the anchor of the adverb in overriding this constraint.

Chapter 3 focuses on the analysis of eleven English adverbs, which were selected from Quirk, Greenbaum Leech & Svartvik's (1985) content disjuncts as adverbs that signal source of information. These adverbs were checked for frequency in the Collins online dictionary and one adverb, *visibly*, indicating direct perception was added. The 11 adverbs were then searched in the News on the Web corpus (NOW) (Davies 2010–now) and the most recent instances extracted to an excel sheet and analysed.

This chapter focuses on studying the behaviour of the 11 adverbs found in main clauses. The adverbs were checked against paraphrases to confirm that they were signaling a knowledge base for information provided in the clause. The layers and meaning of the adverbs were further tested using language items of adjacent layers. The English adverbs supported the predictions based on previous FDG work, for example, that the same adverb can appear on both the Interpersonal and the Representational Level. This turned out to be the case for two of the 11 adverbs investigated. At the Representational Level, as predicted, adverbs with multiple meaning are in contiguous layers. In FDG, this pattern of adjacency is called stepwise contiguity and is expected to be a result of a grammaticalization path, which is not explored in this thesis.

Chapter 4 explores the use of English adverbs signaling information source in complement clauses. It has been noticed that not all languages allow evidential items in a complement clause. The data from the NOW corpus was searched by hand for finite complement clauses with a complementizer or without, and for non-finite complement clauses. The limited number of these clause types with evidentials that were found were analysed and tested using the prediction that says that a modifier in a complement clause will not be of a higher FDG layer than the highest layer of the complement clause itself. In the majority of instances, and in all cases with an actor anchor, the evidential adverb is of the same or lower layer than the layer of the complement clause. There were, however, exceptions in which the evidential adverb was of a higher layer than the licensing complement clause. In all these cases, the current speaker was the anchor of the evidential adverb, which means that the speaker can override the requirements imposed by the complement-taking predicate. Thus, the type of anchor is of importance for the distribution of evidential adverbs in complement clauses.

Chapter 5 focuses on applying the hierarchical layers of modification in FDG to the behaviour of evidential adverbs in noun phrases. The noun phrases studied only have one adjective and were not part of another noun phrase. Both the layering of the evidential adverb and that of the adjective were relevant for this analysis. Three types of adjective were identified here: those of subjective evaluation, descriptive adjectives and those modifying a nominal property of the noun.

The results show that evidential adverbs never modify adjectives expressing subjective evaluation nor those modifying a nominal property. Reportative and inferential adverbs can modify descriptive adjectives expressing permanent properties, but adverbs of deduction and of event perception tend not to. It is also found that evidential adverbs can cause stress shift in the adjective and can adopt the function of expressing cynicism.

Chapter 6, the concluding chapter, provides a response to the predictions. It shows that the predictions were met, apart from the few exceptions where the evidential anchor allowed a higher evidential adverb in complement clauses of lower layers. The conclusion is that the hierarchical layering of FDG has been useful in analysing the distribution and behaviour of evidential adverbs, in the same way that it can explain the distribution and behaviour of grammatical evidentials.

Summary in Dutch

Engelse evidentiële *-ly* adverbia vanuit een functioneel perspectief

Dit proefschrift bestudeert de distributie van 11 Engelse evidentiële adverbia in zinnen en woordgroepen, waarbij de theorie van de Functionele Discourse Grammatica (FDG) als beschrijvend raamwerk wordt gebruikt.

Hoofdstuk 1 laat de lezer kennismaken met evidentialiteit en met FDG en zijn functionele gelaagde hiërarchie. Het hoofdstuk geeft een overzicht van de voorspellingen die worden gedaan op basis van FDG en de vragen die voortkomen uit het hoofddoel van het onderzoek, namelijk het geven van een analyse van de distributie en betekenis van Engelse bijwoorden in *-ly* die een informatiebron uitdrukken waaruit informatie is afgeleid. In de inleiding worden ook de onderzoeksvragen opgesomd en wordt beschreven hoe elk van deze vragen in de volgende hoofdstukken zal worden benaderd.

Hoofdstuk 2 koppelt de scope en semantiek van evidentiële bijwoorden aan hun distributie in de gelaagde FDG-hiërarchie. Uit tests op basis van geconstrueerde voorbeelden blijkt dat deze bijwoorden aan specifieke lagen kunnen worden toegewezen maar voor hun betekenis ook afhankelijk zijn van de lokale context. Bijwoorden met meerdere betekenissen laten zien dat ze kameleonachtig van aard zijn, hetgeen betekent dat dezelfde bijwoorden aan verschillende lagen kunnen worden toegerekend, afhankelijk van de lokale context. Verder wordt duidelijk dat bijwoorden in hoofdzinnen en complementzinnen een verschillende verdeling hebben.

Er wordt aangetoond dat reportatieve evidentiële bijwoorden, die zich op het Interpersoonlijke Niveau bevinden, niet het perspectief van de spreker als basis hebben, terwijl de bijwoorden die op het Representationele Niveau zijn geassocieerd wel uitgaan van het standpunt van de spreker. Bovendien kan de informatie die wordt gemodificeerd door een bijwoord van het reportatieve type op het Interpersoonlijke Niveau worden ontkend door de spreker, terwijl informatie die wordt uitgedrukt door een bijwoord van het Representationele Niveau niet kan worden ontkend. Op het Representationele Niveau bevinden zich de lagen waarin de resterende Engelse evidentiële bijwoorden zich bevinden. De betekenissen van bijwoorden met meer dan één lezing bevinden zich op aaneengesloten lagen van het Representationele Niveau. Als er in één zin twee bijwoorden voorkomen die verschillende lagen modifieren, volgt de volgorde van de constituenten de hiërarchie van de lagen

van hoog naar laag, wat in het Engels wordt uitgedrukt door middel van de volgorde van links naar rechts. Een andere beperking die in dit hoofdstuk wordt besproken is het matchen van de laag van het evidentieële bijwoord met de hoogste laag die aanwezig is in een complementszin, en de rol van het anker van het bijwoord bij het overtreden van deze beperking.

Hoofdstuk 3 richt zich op de analyse van 11 Engelse bijwoorden, die zijn geselecteerd uit de lijst van *content disjuncts* van Quirk, Greenbaum, Leech & Svartvik (1985) als bijwoorden die een bron van informatie aangeven. Deze bijwoorden werden gecontroleerd op frequentie in het Collins online woordenboek en er werd één bijwoord toegevoegd, *visibly*, dat directe perceptie uitdrukt. De 11 bijwoorden werden vervolgens doorzocht in het *News on the Web-corpus* (NOW) (Davies 2010–heden); de meest recente voorkomens werden vervolgens naar een Excel-blad geëxtraheerd en geanalyseerd.

Dit hoofdstuk richt zich op het bestuderen van het gedrag van de 11 bijwoorden in hoofdzinnen. De bijwoorden werden gecontroleerd aan de hand van parafrases om te bevestigen dat ze een informatiebron aangaven voor informatie die in de zin werd verstrekt. De lagen en de betekenis van de bijwoorden werden verder getest met behulp van taalitems van aangrenzende lagen. De Engelse bijwoorden ondersteunden de voorspellingen op basis van eerder FDG-werk, bijvoorbeeld dat eenzelfde bijwoord zowel op het Interpersoonlijke als het Representationele Niveau kan voorkomen: voor twee van de elf onderzochte bijwoorden bleek dit het geval te zijn. Op het Representationele Niveau komen bijwoorden met meerdere betekenissen, zoals voorspeld, in aaneengesloten lagen voor. In FDG wordt dit patroon van adjacentie ‘stapsgewijze contigüiteit’ genoemd en het wordt verklaard als het gevolg van een grammaticalisatiepad, hetgeen in dit proefschrift niet wordt onderzocht.

Hoofdstuk 4 onderzoekt het gebruik in complementszinnen van Engelse bijwoorden die een informatiebron aangeven. Het is eerder opgemerkt dat niet alle talen evidentieële elementen in een complementszin toestaan. De gegevens uit het NOW-corpus zijn handmatig doorzocht op finiete complementszinnen met of zonder complementeerder, en op niet-finiete complementszinnen. Het beperkte aantal van deze zinstypen met een evidentieel bijwoord dat werd gevonden, werd geanalyseerd en getest met behulp van de voorspelling die zegt dat een modificeerder in een complementzin niet van een hogere FDG-laag zal zijn dan de hoogste laag van de complementzin zelf. In de meeste

gevallen, en in alle gevallen met een Agens als anker, is het evidentieële bijwoord van dezelfde of van een lagere laag dan de hoogste laag van de complementszin. Er waren echter uitzonderingen waarin het evidentieële bijwoord van een hogere laag was dan de complementszin. In al deze gevallen was de huidige spreker het anker van het evidentieële bijwoord, hetgeen betekent dat de spreker de eisen die door het complementnemende predikaat worden opgelegd, kan negeren. Het type anker is dus van belang voor de distributie van evidentieële bijwoorden in complementszinnen.

Hoofdstuk 5 richt zich op het toepassen van de hiërarchische modificeerderlagen in FDG op het gedrag van evidentieële bijwoorden in naamwoordgroepen. De bestudeerde naamwoordgroepen hebben slechts één bijvoeglijk naamwoord en maakten geen deel uit van een andere naamwoordsgroep. Zowel de gelaagdheid van het evidentieële bijwoord als die van het bijvoeglijk naamwoord waren relevant voor deze analyse. Drie soorten bijvoeglijke naamwoorden werden geïdentificeerd: die van subjectieve evaluatie, beschrijvende bijvoeglijke naamwoorden en die welke de nominale eigenschap, uitgedrukt door het zelfstandig naamwoord, modificeren.

De resultaten laten zien dat evidentieële bijwoorden nooit bijvoeglijke naamwoorden modificeren die een subjectieve evaluatie uitdrukken, noch die welke een nominale eigenschap modificeren. Reportatieve en inferentieële bijwoorden kunnen beschrijvende bijvoeglijke naamwoorden modificeren die permanente eigenschappen uitdrukken, maar bijwoorden van deductie en van directe perceptie doen dat zelden. Een andere ontdekking is dat evidentieële bijwoorden een klemtoonverschuiving in het bijvoeglijk naamwoord kunnen veroorzaken en de functie kunnen aannemen van het uiten van cynisme en ongelooft.

Hoofdstuk 6 geeft een reactie op de initiële voorspellingen. Het laat zien dat aan de voorspellingen is voldaan, afgezien van de enkele uitzonderingen waarin het evidentieële anker een hoger evidentieel bijwoord toestond in complementzinnen van lagere lagen. De conclusie is dat de hiërarchische gelaagdheid van FDG nuttig is geweest bij het analyseren van de distributie en het gedrag van evidentieële bijwoorden, net zoals het de distributie en het gedrag van grammaticale evidentieële uitdrukkingen kan verklaren.

About the author

After working in Amsterdam, Lois studied Dutch Language and Literature at the University of London. Missing Amsterdam, she started studying English Language and Literature (old style) at the University of Amsterdam (UvA). After receiving her *kandidaats* diploma, she followed as many courses in linguistics as she could while also working as a teaching assistant in the English Department at the UvA. On the *cum laude* completion of her master's degree, the so-called *doctoraal diploma*, she continued teaching at the UvA. For two years, Lois combined her job at the UvA with a teaching appointment in the English department of the Vrije Universiteit in Amsterdam. She then continued teaching English Language and Linguistics at the English department of the UvA until her retirement in 2019.

Her work within the BA programme of the English department included teaching and course development of various courses: Grammar through Text World Theory, Pragmatics, Sociolinguistics, first year Generative Grammar and Phonetics and Phonology, Academic writing. Lois also supervised undergraduate theses.

During the years, Lois's research interests have included Stranded *to* in the LOB corpus resulting in the article 'To strand or not to' (van der Hurk, Kager, Kemp & Masereeuw (1984)), Negative raising, Abstract nouns as signal words, and Recognitional *that*. Her interest in Discourse markers is evident from her thesis topic: applying Relevance Theory in the analysis of *Well* and *Oh*. She attended relevant conferences throughout. More recently, Lois has also worked on the expression of habituality in English using Functional Discourse Grammar (FDG), which led to a publication on English past habituais (Hengeveld, Clarke & Kemp (2021)).

It was a research talk by Martine Bruil on Ecuadorian Siona at a Functional Discourse Grammar research meeting and the conference 'The Nature of Evidentiality' at the University of Leiden that sparked her interest in evidentiality. This eventually led to an application for a PhD on English evidential *-ly* adverbs and to the four publications on evidential *-ly* adverbs in English which make up chapters of this book.

During work on her PhD, she has taught, attended meetings of several research groups at the UvA and followed relevant courses at the LOT School. Lois has attended FDG conferences and workshops and tuned into the monthly online talks presented by the FDG community. She has also presented work at UvA research groups, at FDG Conferences 2016, 2018, 2024, at FDG workshops in 2017, 2021, at the *Societas Linguistica Europaea* (SLE)

conference in 2017, at the International Conference on Evidentiality and Modality (ICEM) in 2018 and at the International Pragmatics Association (IPrA) conference in 2019.

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