Evidential *-ly* adverbs in the noun phrase from a functional perspective

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This paper studies English evidential -ly adverbs within noun phrases in data from the NOW corpus using the framework of Functional Discourse Grammar (FDG). Both the adverbs and adjectives occurring in the noun phrases are categorized in various ways. The results of the categorization reveal more about the distribution of these adverbs and adjectives. Four conclusions are drawn concerning the combination of evidential adverbs and adjectives in noun phrases. Firstly, the lower in the FDG hierarchy the category of an adverb is, the less frequent the occurrence of that category in the noun phrase. Thus, reportative adverbs are very frequent, and adverbs of event perception are very infrequent. Secondly, evidential adverbs do not modify adjectives that express speaker attitude. Thirdly, the higher level evidential adverbs of the reportative and inferential type do modify adjectives expressing permanent properties, whereas the lower adverbs of deduction and event perception do not. Finally, neither restrictiveness nor the evaluative vs descriptive nature of the adjective appear to solely determine the category of evidential modification of the adjective. We furthermore discuss pragmatic effects of the evidential adverb in the noun phrase, such as distancing, and the stress shift that may accompany it.

Keywords: evidential adverb, adjective, noun phrase, Functional Discourse Grammar, reference modification, referent modification, permanent property, contingent property, restrictiveness, context.

1. Introduction

This paper addresses the question of how the distribution and role of evidential *-ly* adverbs in the noun phrase can be accounted for. Examples of noun phrases containing an evidential adverb are given in (1)-(4). Like all examples in the paper, these come from the GB section of the NOW corpus.

(1)   *the **visibly** distressed man* (17-04-11GB)
(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 bold) modifies an adjective, itself modifying the head noun, which are the cases that we will concentrate on in this article. Cases like these are different from corresponding main clause uses of the adverbs involved. Compare, for instance, (4) with (5).

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

In (5), the entire message 'the evidence is new' is characterized as deriving from a source other than the speaker. In (4) it is just the newness that is being attributed to someone else. 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 the clausal usage of *remarkably* in (6) and (7):

(6)   a **remarkably** tall Clyde
(7)   **Remarkably**, Clyde is tall.

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 der Velde (2007), Melac (2014:183) and Olbertz (subm.). It is mentioned in passing in Givon (1993), Tucker (1998), Hengeveld and Mackenzie (2008: 379), Keizer (2015), and Carretero (2019). In light of this situation, the current paper wants 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, which is introduced in Section 2. 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 3. The second factor studied in this article concerns the type of modification instantiated by the adjective. Section 4 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 and 6. The final factor that we will discuss concerns the restrictiveness of the adjective, a topic that will be addressed in Section 7. In Section 8 we will look at the pragmatic effects that the adverbs bring about. The paper is rounded off in the concluding Section 9.

The corpus used for this article is the NOW corpus (Davies 2010-now). For each of eleven different adverbs, the choice of which is motivated in Kemp (2018), 1000 examples were selected. Excluding cases in which multiple adjectives occur in between the adverb and the noun, and noun phrases headed by a proper noun, 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.

2. Functional Discourse Grammar – general architecture

FDG is a functional model of the product of verbal activity, which aims to find reflections of pragmatics and semantics 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 2009: 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, which addresses pragmatics. It governs the next lower Representational Level, which focuses on semantics. Together these levels then govern the Morphosyntactic level, and the three of them govern the Phonological Level. These relations are shown diagrammatically in Figure 1.
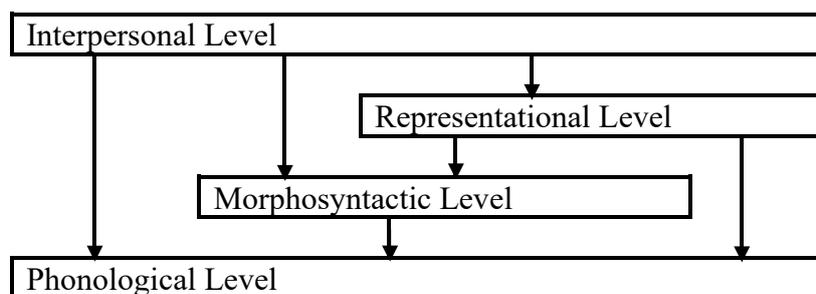

Figure 1. Levels in FDG

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 paper. Each of these levels consists of several layers that are also in a hierarchical relationship. They are given in Figure 2.

Interpersonal Level	Discourse Act	>	Illocution	>	Communicated Content	>	Referential Subact	>	Ascriptive Subact

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Representa-tional Level	Propositio-nal Content	>	Episode	>	State-of-Affairs	>	Configurational Property	>	Property	>	Individual
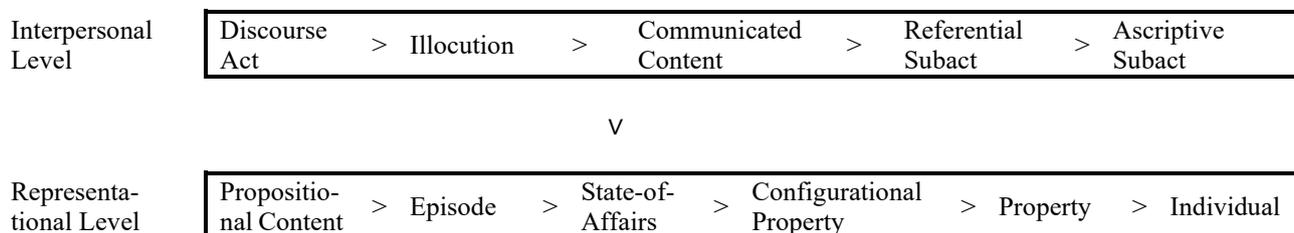
Figure 2. The Interpersonal and Representational Levels

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, which comprises two types of Sub Act, 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 (±s) or identifiability (±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, the Episode, the State-of Affairs, and the Configurational Property. 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 by, for example *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 other types of entities, such as Individuals (x).

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

3. Types of evidentiality

3.1. Introduction

This section studies the influence of the type of evidentiality expressed by the adverb on its distribution within noun phrases. In Section 3.2 we first present a classification of evidentiality types as developed within FDG. In Section 3.3 we then show how these types manifest themselves in the corpus, and we discuss the results.

3.2. Evidentiality in Functional Discourse Grammar

To analyse the co-occurrence of the adverbs with adjectives, it is necessary to adopt categorization schemes for both parts of speech. We start here with the categorization of the adverbs themselves. Table 1, slightly adapted from Kemp (2018), shows the FDG categorization for the most frequently occurring evidential -*ly* adverbs in the NOW corpus. As seen in Table 1, there are four evidential categories: reportative, inference, deduction and event perception (Hengeveld and Hatthner 2015).

The reportative indicates that the modified information comes from outside the present situation, from elsewhere, while inference and deduction show reliance on cognitive processes for the information modified by the adverb. The former is based on a person's stored information and the latter on perceptual observations. Event perception reflects a situation in the direct environment. For each occurrence of an evidential adverb, there is an anchor who is the intermediary between the information and the person who has access to the knowledge base from where the information comes.

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

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

Some examples of these types of evidentiality as expressed in noun phrases are listed below.

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

As shown in Table 1, several evidential adverbs may express more than one meaning at the clause level. This is also true of evidential adverbs within NPs. The polyfunctionality of adverbs attested in the sample is illustrated with the following examples:

apparently
(12) an **apparently** *animate being* (deduction) (18-06-20)
(13) an **apparently** *slim advantage* (inference) (18-06-24)
(14) an **apparently** *'populist' government* (reportativity) (18-05-24)

evidently
(15) an **evidently** *proud man* (deduction) (16-11-19)
(16) my **evidently** *privileged background* (inference) (18-02-27)

obviously
(17) the **obviously** *intentional similarity* (deduction) (18-06-05)
(18) an **obviously** *misleading way* (inference) ((18-06-2)

supposedly
(19) their **supposedly** *unique characteristics* (inference) (17-10-21)
(20) *Mr Corbyn's* **supposedly** *'left wing populist' branch of politics* (reportativity) (18-04-01)

visibly
(21) a **visibly** *red breast* (event perception) (17-03-13)
(22) **visibly** *contaminated bits of the carcass* (deduction) (17-02-19)
(23) a **visibly** *dysfunctional scheme* (inference) (17-10-12)

It should furthermore be noted that inferential *visibly* and deductive *evidently*, which Kemp (2018) did not attest in main clauses, were found in noun phrases. In addition, almost all the adverbs listed in Table 1 also occur within noun phrases in our sample: *allegedly* is illustrated in (24), *apparently* in (12)-(13) above, *clearly* in (10) above, *evidently* in (15)-(16) above, *obviously* in (17)-(18) above, *presumably* in (9) above, *purportedly* in (8) above, *reportedly* in (25), *seemingly* in (26), *supposedly* in (19)-(20) above, and visibly in (21)-(23) above.

(24) **allegedly** *sexist remarks* (reportativity) (18-05-18)
(25) their **reportedly** *rocky relationship* (reportativity) (18-06-30)
(26) a **seemingly** *technical change* (inference) (18-04-07)

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.

Interpersonal Level	Reportative (C)		

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Representa-tional Level	Inferential (p)	> Deduction (ep)	> Event Perception (e)
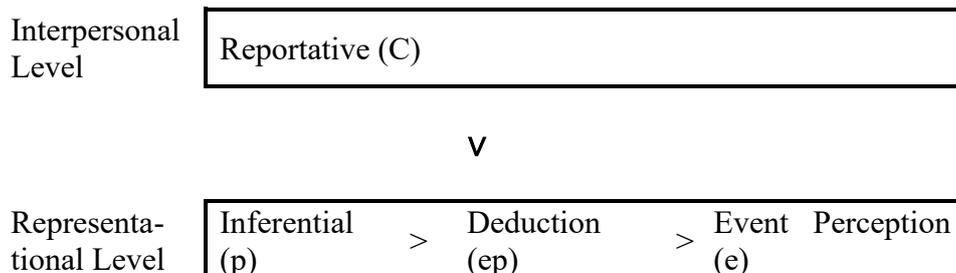
Figure 3. Hierarchical relations between evidential categories

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 (27).

(27)   reportativity ⊂ inference ⊂ deduction ⊂ event perception

3.3. Types of evidentiality identified in the corpus

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 2, the number of cases decreases sharply along the scope hierarchy presented in (27).

Table 2. Distribution of types of evidentiality in the sample

Evidentiality type	reportativity	inference	deduction	event perception
Number of cases	210	89	46	1

The question is how this distribution may be explained. The explanation that we propose has to do with the nature of the evidence that is needed to use an evidential of the different 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)

Melac (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 visible properties, but not be perceived directly, as in the following examples:

(29)   *their **visibly** dangerous riding* (17-04-04)
(30)   *a **clearly** racist gesture* (18-06-16)

Danger and racism cannot be directly perceived, but its manifestations, such as high speed or the nature of a gesture, can. 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)
(32)   ***seemingly** conflicting accounts* (18-06-14)

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)
(34)   *an **apparently** "populist" government* (18-05-24)

The one uttering (33) is attributing the property 'peaceful' to the West Bank, but is not committing him-or herself at all to this attribution. To the contrary, by using the evidential adverb the speaker actually questions the peacefulness. It is therefore not inferred but reported, as shown by the quotation marks, which means that even non-inferred or non-inferrable properties may be attributed to someone else. 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.

4. Types of modification

4.1. 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 4.2 we first present a classification of modification types in FDG. Section 4.3 then shows how these types manifest themselves in the corpus. In this section we also discuss these results.

4.2. Types of modification in Functional Discourse Grammar

In terms of the formalism presented in Section 2, a noun phrase used referentially is build on the template given in (35) (see Van de Velde 2007, Butler 2008, Hengeveld 2008, Rijkhoff 2008):

(35)   IL: $(R_1: [\ldots] (R_1): \Sigma^R (R_1))$
       RL: $(\alpha_1: (f_i: Lex (f_1): \sigma^f (f_1)) (\alpha_1): \sigma^\alpha (\alpha_1))$

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 entity types. 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 interest us here. The Referential Subact, as a whole, can be modified by the modifier Σ^R. 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^α, which indicates a second property of that entity. The Property of that entity can be modified by means of the modifier σ^f. This modifier provides a second property of the Property.

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^x) skillful (σ^f) surgeon (f_i)
(37)   IL: $(R_I: [\ldots] (R_I): poor (R_I))$
       RL: $(x_i: (f_i: doctor (f_i): (f_j: skillful (f_j)) (f_i)) (f_i)) (x_i): (f_k: unhappy (f_k)) (x_i))$

By means of the adjective *poor* the speaker expresses his/her empathy for the referent of the noun phrase; the adjective *unhappy* provides a second property of the referent: the referent is both a surgeon and unhappy; the adjective *skillful* has a more limited scope: the entity referred is not both a doctor and a skillful person, the skillfulness is limited to the referent being a doctor; it is thus the doctorhood 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", while reference modification is not. In reference modification, the adjective rather 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. These two types of modification, referent modification and reference modification, are therefore also characterized as 'intersective' and 'subsective', respectively (see e.g. Morzyki 2016). The third type of modification in FDG, which is speaker bound, such as 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 (Morzyki 2016: 23).

(38)   *the alleged murderer*
(39)   *the purported author*

4.3. Types of modification identified in the corpus

Turning now to the corpus data, Table 3 shows how the various types of modification manifest themselves across the different types of evidentiality discussed in Section 3.

Table 3. Types of modification in the corpus

	reportativity	inference	deduction	event perception	
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
	210	93	46	1	346

Table 3 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 knowledge, such as the feelings of empathy expressed in 'my poor surgeon fell ill once again'. However, when 'poor' in this sense is preceded by and 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 3 is that reportativity and inference combine with reference modifying adjectives, but deduction and event perception do not. Some examples of reportative evidentials combining with reference modifying adjectives are given in (41)-(42), and some of inferential evidentials in (43)-(44)

(41) **_supposedly_** _political comedians_ (18-05-17)
(42) _the_ **_supposedly_** _pescatarian predators_ (18-01-13)
(43) _the_ **_seemingly_** _prosaic function_ (18-06-18)
(44) _an unorthodox,_ **_seemingly_** _militant movement_ (18-03-06)

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_.

To further explain the distribution in Table 3, 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 cannot be perceived. Given that perception forms the basis for deduction and event perception, the cooccurrence of these adjectives with adverbs of deduction and event perception is unacceptable, 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 seems to be an artefact of their expressing permanent properties. We will go into the influence of the permanent and contingent meaning of adjectives in the next section.

5. Permanent and contingent properties

5.1. 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 5.2. we first present the treatment of the opposition between these two adjective classes in FDG, while in Section 5.3 we look at their distribution within the sample and these results.

5.2. Permanent and contingent properties in FDG

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

(49) $(^{P}f_1)$ permanent Property
(50) $(^{c}f_1)$ 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.

5.3. 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)

One of the possible interpretations of (49) 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 4.

Table 4. Adjectives expressing permanent and contingent properties in the sample

	reportativity	inference	deduction	event perception	
Contingent	49 (23%)	28 (31%)	46 (100%)	1 (100%)	124
Permanent	161 (77%)	61 (69%)	0 (0%)	0 (0%)	222
	210	90	47	1	346

As shown by Table 4, 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 with contingent properties, not permanent properties. hence contingent properties, not permanent properties. In the previous section, we have already shown this to be the case for reference-modifying adjectives, which intrinsically express permanent properties. The following examples show that the same holds for referent-modifying adjectives expessing permanent properties.

(54) my **evidently**/?**visibly** privileged background (18-02-27)
(55) China's **seemingly**/?**visibly** insatiable desire for commodities (18-02-23)

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 4) or referent-modifying (this section), makes them unlikely candidates to be combined with adverbs of deduction and event-perception.

6. Descriptive and evaluative adjectives

6.1. Introduction

This section studies the influence of the type of adjective that is being modified by the evidential adverb on the distribution of the latter within noun phrases from a second perspective: that of the descriptive or evaluative nature of the adjective. In Section 6.2 we first present a classification of types of adjectives based on Farsi (1968) and relate it to earlier work in FDG. Section 6.3 then shows how these types manifest themselves in the corpus and discuss these results.

6.2. Types of adjectives in Functional Discourse Grammar

Work on adjective types in FDG has mainly be carried out by Rijkhoff (2002, 2008). 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* has to occur closer to the head noun than the subjective adjective *beautiful*.

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 descriptive in nature, the B class 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 the former, and will return to the latter 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, first of all, 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 be qualified by *very*, as in *very kind*, *very inconsistent*, and *very respectful*, while descriptive ones cannot, as shown by ?*very verbal*.

6.3. Types of adjectives identified in the corpus

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 any of the two classes defined by Farsi, including adjectives of color, age, and place. Excluding these adjectives, the total number of relevant cases is 332.

In Table 3, we cross-classify Farsi's (1968) adjective classes with the classes of adverbs studied in Section 3.

Table 3. Types of adjectives and evidentiality type

	Reportativity	Inference	Deduction	Event Perception	
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
	208	79	45	0	332

What Table 3 shows is that the number of evaluative adjectives that is modified by an evidential adverb of deduction is remarkably high. Below are some representative examples.

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

Especially 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)

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

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

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 denote temporary states. As we showed in the previous section, deduction and event perception are not used 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. We have no way of verifying this for event perception, as there is only one example of this in the entire sample. But note that in this example, repeated in (61), the adjective expresses a temporary property as well.

(65)   a **visibly** red breast

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) point out that the indefinite article used in phrases such as *an angry Blair* 'designates manifestations or "images" of a more temporary nature' (2002: 18). 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 expresses a subjective view expressing that a conclusion regarding emotions has been drawn from observation.

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

7. Restrictiveness

7.1. Introduction

This section studies the influence of the restrictiveness of the adjective modified by the evidential adverb. In Section 6.2 we first present a classification of restrictiveness types in FDG. Section 6.3 then shows how these types manifest themselves in the corpus. In this section we also discuss these results.

7.2. Restrictiveness in Functional Discourse Grammar

The (non-)restrictiveness of adjectives can be illustrated by means of the following examples. Example (67) is taken from Keizer (2019).

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

In (66) the adjective *friendly* restricts the set of people to those who are friendly. In (67), 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) describes 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 MH objects denoted by H', while she provides the following definition for non-restrictive modification: 'Modifier M nonrestrictively modifies Head 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 (66):

(68) $(x_i: (f_i: people (f_i)) (x_i): (f_j: friendly (f_j)) (x_i))$

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 details

of her analysis are not immediately relevant for our point here, so we will use simplified representations like the following one of *friendly staff* in (67) to indicate non-restrictiveness, by replacing the colon by a comma:

(69) $(x_i: (f_i: \text{staff} (f_i)) (x_i), (f_j: \text{friendly} (f_j)) (x_i))$

7.3. Restrictiveness in the corpus

In Table 4, we cross-classify restrictiveness with the classes of adverbs studied in Section 3. 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.

(70)   *the desperate people of Ruritania*

Example (70) could refer to all the people of Ruritania or just part of them.

Table 4. Restrictiveness and evidentiality type

	Reportativity	Inference	Deduction	Event Perception
Restrictive	165 (78.6%)	67 (77%)	18 (37.5%)	1 (100%)
Non-restrictive	45 (21.4%)	20 (23%)	30 (62.5%)	0 (0%)

Some 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)
(72)   *a **purportedly** imperiled culture* (17-08-19)
(73)   *another **supposedly** privileged community* (17-10-25)
(74)   *his **allegedly** shopaholic wife* (18-05-22)

It is immediately clear from Table 4 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):

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

The relevant group of examples includes the 24 cases in which a proper name is modified and that we mentioned in Section 5.3. Two relevant examples are given in (77) and (78):

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

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 denote temporary properties, so that there is once more a clear connection here between deduction and temporary properties.

8. Pragmatic effects of evidentials in noun phrases

8.1. Introduction

We have shown above that there is considerable interaction between the elements of an NP in terms of their semantics. For example, the nature of subsective adjectives limits the co-occurrence with certain types of evidential meaning (5.3), and adverbs of deduction and event perception only combine with adjectives expressing a temporary state (6.3). 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.

8.2. Reportatives

There are only two cases of *reportedly* in noun phrases in the corpus. Although similar in meaning, in that they draw on speaker external information, instances of *purportedly* and *supposedly* appear to reflect a view held more generally by others that is calls into question by the speaker, whereas that is not so in the few cases of *reportedly*. One of those is the one illustrated in (79). In this case the irreversibility of Ronaldo's decision is reported in a neutral fashion.

(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)

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 call into question not only the applicability of the adjective in ascribing the property to the noun, but they can also carry an implicature of cynicism. For a similar effect of the reportative in American Spanish, see Olbertz (subm.) 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)

As such, the writer does not appropriate the adjective (Fox 2008). In this use, the adjective *civilized* becomes prosodically prominent. This effect is also seen without the use of quotation marks as in (81).

(81)   *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)

The reportative can thus be used for creating a rhetorical effect. In the retrieved data, but not in our data counts, we have example (82), a letter to a newspaper. The reportative adverb *purportedly* appears to disrupt the proper noun and unitary set made up of the adjective

United and the noun *Kingdom*, which then forms a regular adjective noun combination, similar to *the 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)

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).

8.3. Inferentials

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. Melac'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. (Melac 2014: 273).

Inferential *seemingly* occurs in a film review of the 'Den of Thieves' (84). 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)

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*. Melac (2014: 279) suggests that, unlike other evidential adverbs, *obviously* carries an inference of full conviction. In (85) Green expresses his strong disagreement with the words of Rees-Mogg, which was most likely in light of Brexit discussions at the forthcoming Brussels summit meeting.

(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)

(85)   *This was echoed by Damian Green, Mrs May's former deputy, who condemned arch-Brexiteer Jacob Rees-Mogg for his '**obviously** misleading arguments' and spouting 'Churchillian-sounding phrases about becoming a 'vassal state'.* (18-06-03 GB)

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

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(86)   *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)

There are very few instances of the use *presumably* in noun phrases in the data. This could well be because it is so strongly speaker-oriented and therefore can be ambiguous. In (87) 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.

(87)   *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)

        Inferential adverbs also have a focusing effect, resulting in a stress shift, as shown in (88):

(88)   *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)

So rather than having the regular primary stress on *slate*, as in [ˌkliːn ˈsleɪt], primary stress shifts to the adjective *clean*, as in [ˈkliːn ˌsleɪt].

8.4. 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 the reality of the event (Melac 2014: 273).

(89)   *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)

        Similarly, in a review of travel to Madeira, we read in (90) that vegetable plots 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.

(90)   *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)

Again in (91) *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.

(91)   *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)*

As with the reportatives and inferentials, there can be a stress shift when a deductive evidential is used before a collocation. In *seemingly drunk driver* in (92) the main stress is on the word *drunk*: [ˈdrʌŋ.k ˌdraɪ.vəʳ] whereas without the adverb, it would be on the first syllable of *driver*.

(92)   *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)

9. Conclusions

In this paper, we have studied 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 show 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 show that adjectives expressing permanent properties are never 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 have independent importance in understanding the distribution of evidential adverbs in noun phrases. Finally, we show that the use of evidential adverbs in noun has the rhetorical function of cynicism and possible disbelief, 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.

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