

The problem of non-truth-conditional, lower-level modifiers: a Functional Discourse Grammar solution¹

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(Received 25 October 2018; revised 7 March 2019)

This article discusses two groups of prosodically and linearly integrated modifiers: evaluative ('subject-oriented') adverbs (e.g. *cleverly*, *stupidly* and *recklessly*) and non-restrictive prenominal modifiers (e.g. *old* as in *my old mother*). What these two groups of elements have in common is the rather puzzling fact that both are (or have been analysed as) relatively low-level modifiers (i.e. as part of the proposition), while at the same time being non-truth-conditional/non-restrictive (suggesting they are non-propositional). In this article it is argued that although there is indeed compelling syntactic evidence that these elements modify a relatively low layer in the clause (proposition or lower), this need not be incompatible with their non-truth-conditional/non-restrictive status. Using the theory of Functional Discourse Grammar (FDG), an analysis is proposed in which these elements are not part of the proposition expressed by the clause in which they occur, but instead form part of a separate proposition, in which they function as non-verbal predicates taking a specific layer of analysis (e.g. a proposition, State-of-Affairs, entity or property) as their argument. The analysis proposed not only reconciles the specific semantic and syntactic properties of the modifiers in question, but also reveals the similarities between the two groups of modifiers discussed.

1 Introduction

It has long been acknowledged, by speech-act theorists and theoretical linguists alike, that some modifiers are truth-conditional while others are not (e.g. Urmson 1963; Jackendoff 1972; Bellert 1977; Strawson 1973; Allerton & Cruttenden 1974: 7–8; Bach & Harnish 1979; Chafe 1986; Palmer 1986; Fraser 1996; Ifantidou 1993; Mittwoch *et al.* 2002). Thus, there seems to be general agreement that illocutionary adverbs like *frankly* and attitudinal adverbs like *unfortunately* do not contribute to the truth-conditionality of the proposition (are not part of the proposition), but instead serve as comments on the proposition.² In Functional Discourse Grammar (FDG), where modifiers, on the basis of their semantic, syntactic and discourse-pragmatic properties, are assigned to a particular level and layer of representation, the notion of non-truth-conditionality plays an important role, as it helps to determine which modifiers belong to the Interpersonal Level and which to the Representational Level of analysis: while interpersonal (higher-layer) modifiers are by definition non-propositional, and as such

¹ Thanks are due to Lachlan Mackenzie and the anonymous reviewers for their valuable comments on an earlier version of this article. Any remaining shortcomings are, of course, my own.

² See Asher (2000) for an alternative view. See Rouchota (1998: 121–2) for a discussion of the nature of such comments.

non-truth-conditional, representational (lower-layer) modifiers are part of the proposition (restricting the denotation of a particular semantic layer), and are as such taken to be truth-conditional (e.g. Hengeveld & Mackenzie 2008: 121, 128–9).

As it turns out, however, there are at least two groups of representational modifiers which are non-truth-conditional. First, there is the group of what are traditionally referred to as subject-oriented adverbs, like *cleverly*, *wisely* and *stupidly* in example (1),³ which are generally assumed to belong to a relatively low level of analysis (e.g. Cinque 1999; Ernst 2002), and which in FDG have been analysed at the Representational Level (Dik *et al.* 1990; Hengeveld & Mackenzie 2008); nevertheless, they do not affect the truth-conditional value of the proposition.

- (1) (a) Flo had flared when he'd raised that possibility and he'd **wisely** not brought it up again. (COCA, fiction)
 (b) The service manual you **cleverly** purchased years ago will unlock all the secrets, (COCA, magazine)
 (c) I **selflessly** took on the job, (COCA, magazine)

The same is true for the non-restrictive attribute adjectives in example (2). These, too, do not contribute to the truth conditions of the clause that they appear in, but merely add additional information about the referent in question (e.g. Bolinger 1967, 1989: 198; Quirk *et al.* 1985: 1239; Ferris 1993; Biber *et al.* 1999: 242; Huddleston *et al.* 2002: 1353; Larson & Marušić 2004: 275; Alexiadou *et al.* 2007: 334–5; Cinque 2010: 6–7; Matthews 2014: 168):

- (2) (a) There were seven of us, my three kids, wife, my father-in-law, **my old mother** and me (COCA, spoken)
 (b) **Our friendly staff** is here to make sure that you have an outstanding staff experience. (www.brecksvilledermatology.com/meet-us/our-friendly-staff/)
 (c) The **prolific** Toni Morrison returned this year with her first novel set in the current time. (COCA, magazine)

The present article will consider the consequences of this apparent anomaly both for the analysis of the modifiers in question, and, more generally, for the role of truth-conditionality in FDG. On the basis of data from the *Corpus of Contemporary American English* (COCA; Davies 2008), the *News on the Web Corpus* (NOW; Davies 2015), and some additional examples from the internet, it will be argued that the fact that adverbs like *cleverly* and non-restrictive adjectives are non-truth-conditional is not incompatible with their being analysed at the Representational Level, as long as they are not analysed as restrictors, but instead as part of a separate proposition that can scope over various layers of analysis.

In what follows I will first provide a brief introduction to the relevant aspects of the theory of FDG, focusing on the different levels and layers of representation and the way they are used in the analysis of adverbs (or modifiers in general) (section 2). Next

³ Other adverbs in this group are: *bravely*, *cheekily*, *courageously*, *crazily*, *cunningly*, *(un)fairly*, *foolishly*, *graciously*, *(in)appropriately*, *recklessly*, *selfishly*, *selflessly*, *sensibly*, *sheepishly*, *shrewdly*, *sneakily*, *thoughtlessly*, *viciously*, *wickedly*.

I will discuss the group of subject-oriented adverbs, looking at their truth-conditionality status and their syntactic features. I will propose an analysis of these adverbs that can reconcile their non-truth-conditionality with their representational status, and which can also deal with the seemingly conflicting syntactic evidence (section 3). I will then turn to the non-restrictive prenominal adjectives. I will discuss their non-restrictive (non-truth-conditional) status and their specific formal features, before arguing that the analysis proposed for the subject-oriented adverbs can also be applied here (section 4). Section 5 will conclude.

Before we start, I would like to comment briefly on the terminology used. As mentioned above, adverbs like *cleverly* and *wisely* are typically called subject- (or agent-)oriented adverbs in the literature. However, the participant in question does not necessarily function as the subject, as in those cases where the adverb applies to the (implied) agent in a passive sentence (as in example (3); see Mittwoch *et al.* 2002: 678–9; Quirk *et al.* 1985: 576). In other cases, there may not even be an agent (example (4); see Potts 2005: 14).

- (3) The speedometer was **wisely** placed above the cockpit display, in your sight line, (COCA, newspaper)
- (4) **Cleverly**, there is a mesh bag which pulls out to keep wet or dirty items separate ... (COCA, magazine)

For these reasons (and for additional reasons which will become clear later), I will here use the term predicative-evaluative (or evaluative for short) to refer to this group of adverbs.

2 Introduction to FDG

2.1 Overall characterization

Functional Discourse Grammar is a functional theory in that it takes a ‘function-to-form’ approach, based on the assumption that (both synchronically and diachronically) the shape of a linguistic utterance (or, more generally, of a language as a whole) is largely (if not exclusively) determined by the communicative function it fulfils (e.g. Hengeveld & Mackenzie 2008: 29, with reference to Dik 1986). At the same time, however, FDG is ‘form-oriented’, in that it captures only those pragmatic and semantic, as well as contextual, phenomena in underlying representation that are systematically reflected in the morphosyntactic and phonological form of an utterance (e.g. Hengeveld & Mackenzie 2008: 39, 40).

These principles are reflected in the distinctive features of the model. Thus, the model is organized in a top-down manner, starting with the Speaker’s communicative intention and ending with the articulation of a linguistic utterance. In this process, pragmatics takes precedence over semantics, while pragmatics and semantics together take precedence over morphosyntactic and phonological form (see Hengeveld & Mackenzie 2008: 13). The privileged role of pragmatics is further reflected in the fact that FDG takes the Discourse Act rather than the sentence or the clause as its basic unit of analysis.

Consequently, FDG can accommodate not only regular clauses, but also units larger than the clause, such as complex sentences, and units smaller than the clause, such as interjections or phrases.

2.2 *Four levels of analysis*

In order to represent all the pragmatic, semantic, morphosyntactic and phonological features of a linguistic expression, FDG analyses Discourse Acts in terms of four independent levels. Together, these four levels, and the primitives feeding into these levels, form the grammatical component of the model (the FDG proper). This grammatical component does not function in isolation, but interacts with three other components: a conceptual component, which consists of the speaker's communicative intentions, and which forms the driving force behind the grammatical component (see e.g. Connolly 2017); a contextual component, containing non-linguistic information about the immediate discourse context that affects the form of a linguistic utterance (see also Connolly 2007, 2014; Cornish 2009; Alturo *et al.* 2014; Hengeveld & Mackenzie 2014); and an output component, consisting of the spoken, signed or written realization of a linguistic utterance. An overview of the model is given in [figure 1](#).

2.2.1 *The Interpersonal and Representational Levels*

The four levels of representation are the outcome of two types of operations. Proceeding in a top-down manner, the first operation is that of Formulation, which deals with all the meaningful elements of a linguistic utterance. The outcome of this operation takes the form of representations at the higher two levels of analysis, the Interpersonal and Representational Levels, which together capture all the pragmatic and semantic aspects of a linguistic expression. The second operation, that of Encoding, subsequently takes care of an expression's formal properties, and leads to representations at the Morphosyntactic and Phonological Levels. Each of these four levels is hierarchically organized into a number of different layers.

The highest level of representation, the Interpersonal Level (IL), deals with 'all the formal aspects of a linguistic unit that reflect its role in the interaction between the Speaker and the Addressee' (Hengeveld & Mackenzie 2008: 46). The most inclusive layer at this level is the Move (M), which forms 'the largest unit of interaction relevant to grammatical analysis' (Hengeveld & Mackenzie 2008: 50). Each Move consists of one or more Discourse Acts (A), defined as 'the smallest identifiable units of communicative behaviour' (Kroon 1995: 85; Hengeveld & Mackenzie 2008: 60), but which, unlike Moves, 'do not necessarily further the communication in terms of approaching a conversational goal' (Hengeveld & Mackenzie 2008: 52). These Discourse Acts, in turn, consist of an Illocution (F), the Speech Participants (P₁ and P₂) and a Communicated Content (C), which 'contains the totality of what the Speaker wishes to evoke in his/her communication with the Addressee' (Hengeveld & Mackenzie 2008: 87). The Communicated Content, finally, consists of one or more Subacts of Reference (R), evoking entities, and Subacts of Ascription (T), evoking the properties the Speaker wishes to assign to these entities.

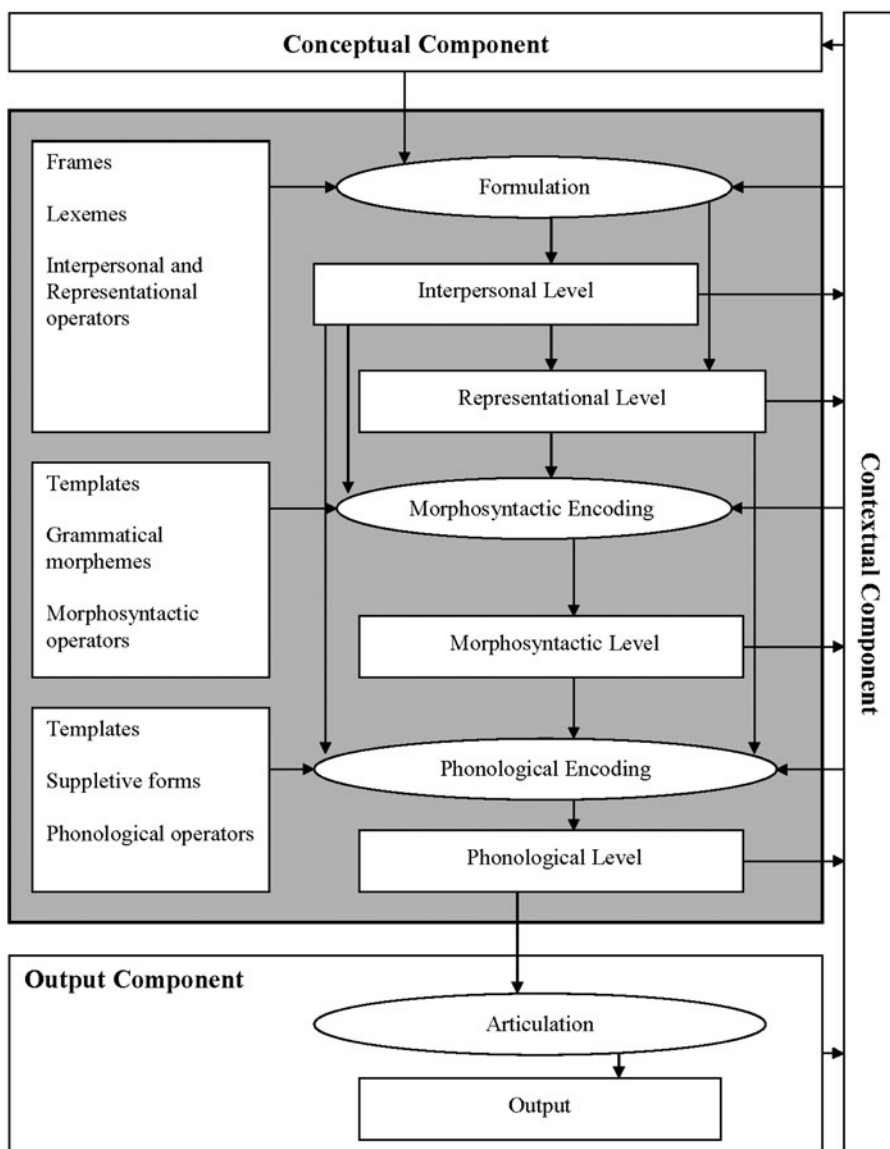


Figure 1. General layout of FDG (based on Hengeveld & Mackenzie 2008: 13)

Each of these layers is provided with slots for operators and modifiers, which provide additional grammatical and lexical information, respectively, about the layer in question. Modifiers at the Interpersonal Level often take the form of interpersonal adverbs,⁴ which

⁴ In FDG only lexical adverbs are analysed as modifiers; grammatical(ized) adverbs express an operator at the Interpersonal Level (e.g. *just/only* when used to mitigate the force of the Illocution, *really* to add emphasis or

are necessarily speaker-bound and non-truth-conditional (Hengeveld & Mackenzie 2008: 130, 144). Different groups of adverbs belong to (scope over) different interpersonal units, depending on their function: adverbs like *frankly*, expressing the manner in which the speaker performs the illocutionary act, are analysed as modifiers of the Illocution; adverbs like *(un)fortunately* and *(un)surprisingly*, expressing the speaker's attitude with regard to what is communicated, as modifiers of the layer of Communicated Content; and stylistic adverbs like *briefly*, indicating stylistic features of an expression, as modifiers of the Discourse Act or Move (e.g. Hengeveld 1989, 1997; Hengeveld & Mackenzie 2008).

By way of illustration consider the following example:

- (5) (a) Dave surprisingly gave me a watch.
 (b) (M_I: (A_I: [(F_I: DECL (F_I)) (P_I)_S (P_J)_A (C_I: [(T_I) (R_I) (R_J) (R_K)] (C_I): surprisingly (C_I)) (A_I)) (M_I))

In (5b) we find a Move consisting of a single Discourse Act, which in turn consists of a declarative Illocution (F_I), the two Speech Participants, (P_I)_S and (P_J)_A, and a Communicated Content (C_I). The Communicated Content consists of a Subact of Ascription (T_I), evoking the property 'give', and three Subacts of Reference, (R_I), (R_J) and (R_K), evoking the entities described as *he*, *me* and *a watch*. The attitudinal adverb *surprisingly* is analysed as a modifier of the Communicated Content.

The Representational Level (RL) deals with the semantic aspects of a linguistic expression, i.e. with those aspects that reflect the way in which language relates to the (real or imagined) world it describes. The units at this level represent the different linguistically relevant types of entities in the extralinguistic world (Hengeveld & Mackenzie 2008: 131; compare Lyons's (1977: 442–7) 'orders of entities'). The highest layer at this level is that of the Propositional Content (p), which represents a mental construct that can be evaluated in terms of its truth. The Propositional Content consists of one or more Episodes (ep), i.e. sets of States-of-Affairs (SoA) that are coherent in terms of time, space and participants. Each SoA (e) is, in turn, characterized by a Configurational Property (f^c), typically consisting of a verb (analysed as a Lexical Property, f^l) and its arguments (which often take the form of Individuals (x), i.e. concrete entities).

Once again each layer is provided with a slot for operators and modifiers, the former expressing grammatical information (tense, aspect, modality, number), the latter providing additional lexical information concerning the layer in question. Representational modifiers often take the form of lower-layer adverbs, which are typically truth-conditional. The clearest examples are adverbs that are part of the predication, e.g. manner adverbs (modifying a verbal Property), frequency adverbs (modifying the SoA) and time adverbs (modifying the Episode). Modal and evidential adverbs like *probably* or *evidently* (modifying the Propositional Content), however, are

truly as an intensifier). All adverbs discussed in this article are considered to be lexical, as they fulfil the criteria for lexical status, i.e. they can be focalized and can themselves be modified (Keizer 2007; Hengeveld 2017).

also included in the set of representational adverbs.⁵ Note that although these adverbs can be speaker-bound (expressing the speaker's degree of commitment to the truth of the Propositional Content), this need not be the case (e.g. *probably* in *John says that he probably won't come tonight*, where it is used to express someone else's (in this case John's) degree of commitment to the truth of the Propositional Content).

A Representational Level analysis of sentence in (6a) is provided in (6b):

- (6) (a) Dave will probably give me an expensive watch tomorrow.
 (b) $(p_i: (\text{fut } ep_i: (e_i: (f_i^c: [(f_i^d: \text{give } (f_i^d)) (1x_i)_A (1x_i)_R (1x_k: (f_j^d: \text{watch } (f_j^d)) (x_k): (f_k^c: \text{expensive } (f_k^c)) (x_k)_U] (f_i^c)) (e_i)) (ep_i)) (p_i): \text{probable } (p_i))$

The highest layer of analysis here is the Propositional Content p_i . This Propositional Content contains a single Episode ep_i , which in turn consists of a single SoA e_i . This SoA is headed by a Configurational Property f_i^c , consisting of the verb *give* (a Lexical Property, f_i^d) and its three arguments (the Individuals x_i , x_j and x_k). The first two arguments, x_i and x_j , represent the noun phrases *Dave* and *me*, which consist of a variable only, as they lack descriptive content. The third argument, x_k , is restricted by two Properties: first by the nominal Property 'watch' (the head, or first restrictor), and subsequently by the adjectival Property 'expensive' (a modifier, or second restrictor).⁶ The representation contains two more modifiers, *probable* at the layer of the Propositional Contents and *tomorrow* at the layer of the Episode, as well as the tense operator 'future' at the layer of the Episode.

Finally, the fact that modifiers are assigned to a particular layer of analysis allows for predictions about which adverbs can occur in which verbal complements. On the assumption that different types of verbs take different layers as their clausal complement (i.e. have different selectional or subcategorizational properties), we may expect there to be constraints on the occurrence of adverbs in the clausal complement of a verb, in the sense that a complement cannot contain an adverb that functions as a modifier at a higher layer than that of the complement itself (Hengeveld 1990: 16–17; Hengeveld & Mackenzie 2008: 363–5; cf. Ramat & Ricca 1998: 222; Bach 1999: 358; Potts 2005: 145–6). For instance, since verbs of knowing take a Propositional Content as their complement, these complements can contain propositional modifiers like *probably*, but not higher-layer adverbs like *reportedly* (which modifies the Communicated Content):

- (7) Somebody back there was smart enough to know that Nairam **probably** (***reportedly**) had the line tapped. (COCA, fiction)

⁵ Note that some linguists (e.g. Van de Velde 2012: 14; Ramat & Ricca 1998) have categorized these adverbs as interpersonal, due to their subjective nature and the fact that they cannot be focused (clefted, questioned) and fall outside the scope of negation. As pointed out below, however, these features only show that these adverbs are non-predicational, not that they are interpersonal. In FDG, propositional adverbs, being truth-conditional, are analysed at the Representational Level.

⁶ The restrictive relation is indicated by the colon.

2.2.2 *The Morphosyntactic and Phonological Levels*

The output of the operation of Formulation forms the input to the operation of Encoding. The first level of Encoding, the Morphosyntactic Level, accounts for all the linear properties of a linguistic expression, using the same placement rules for clauses, phrases and complex words. These placement rules are functionally inspired, applying in a top-down, outside-in manner, with operators, modifiers and functions belonging to the highest layer at the Interpersonal Level (the Move) being placed first, and those from the innermost layer at the Representational Level (the Property) being placed last. In the case of multiple modifiers this means that higher adverbs are more likely to be placed in more peripheral (preverbal) positions, and lower adverbs in more central or postverbal positions. By way of illustration, consider the following example:

(8) She will **unfortunately probably** leave for Brazil **again tomorrow**.

In this example, the attitudinal adverb *unfortunately*, as the only interpersonal modifier, is the first element to be placed. The adverb *probably*, as the highest representational modifier, is the next element to be placed, going to the position immediately following *unfortunately*. Next, the Episode modifier *tomorrow* is placed in clause-final position, and the frequency adverb *again* in pre-final position.

Finally, the Phonological Level converts the input from the three higher levels into phonological form. Once again the layers at this level are hierarchically organized into Utterances (U), which form the highest layer, Intonational Phrases (IP), Phonological Phrases (PP), Phonological Words (PW), Feet (F) and Syllables (S). The layer that is most relevant for the current discussion is that of the Intonational Phrase, which is characterized internally by the presence of a complete intonational contour and externally by the presence of intonational boundaries, and which, in the default case, corresponds to a Discourse Act at the Interpersonal Level.

3 Predicative–evaluative adverbs

3.1 *Truth-conditionality*

Predicative-evaluative adverbs like *cleverly* are used to express an evaluation of an action, as well as of the agent involved in this action (cf. Quirk *et al.* 1972: 465; Haumann 2007: 201). Thus, in (1c), the speaker assigns the Property ‘selfless’ to the entire SoA (‘the speaker taking on the job was a selfless thing to do’), as well as to the Actor for performing the SoA (‘it was selfless of the speaker to take on the job’):

(1) (c) I **selflessly** took on the job (COCA, magazine)

It is this combination of properties that distinguishes these adverbs from, on the one hand, attitudinal adverbs like *unfortunately*, which express a speaker’s attitude towards the message conveyed, but do not evaluate the agent involved, and, on the other, volitional adverbs like *reluctantly*, which are agent-oriented, but do not offer a subjective evaluation of the event as a whole (Mittwoch *et al.* 2002: 676).

In FDG, these evaluative adverbs have been analysed as representational modifiers at the layer of the SoA (Hengeveld & Mackenzie 2008: 209), an analysis compatible with those offered elsewhere (e.g. Quirk *et al.* 1985; Cinque 1999; Ernst 2002; Mittwoch *et al.* 2002). Such an analysis is, however, problematic, since in FDG, as well as in many other theoretical approaches, representational (lower-layer) modifiers (or adjuncts) function as restrictors (e.g. Hengeveld & Mackenzie 2008: 14, 81; see also Dik 1997: 132–6): they restrict the denotation set of their head, i.e. of the semantic unit (SoA, Episode, Propositional Content, etc.) they scope over. This is not, however, what evaluating adverbs do: they do not restrict the set of SoAs denoted by their head, but provide additional information about this SoA (in the form of the speaker's evaluation). In other words, these adverbs are non-truth-conditional (see also Bellert 1977; Mittwoch *et al.* 2002: 677), as confirmed by two common tests for truth-conditionality (see also Ifantidou 1993; Papafragou 2006): the assent/dissent test and the scope (embedding) test.

I. The assent/dissent test

The assent/dissent test is based on the assumption that only propositional content can be denied directly by expressions like *Yes* or *No*, or *I (don't) agree*.⁷ Any part of an expression that can be affirmed or denied in this way must therefore be propositional, and as such truth-conditional. In FDG, this test is used to support the distinction between interpersonal and representational adverbs (Hengeveld & Mackenzie 2008: 128–9). The former, being non-truth-conditional, cannot be denied or affirmed; the latter, being truth-conditional, can. As it turns out, evaluative adverbs behave in this respect like interpersonal adverbs, in that they cannot be confirmed or denied:

- (9) Peter **cleverly** avoided the question. [evaluative]
 (a) I agree. (He avoided the question.); No. (He didn't avoid the question.)
 (b) *I agree. (It was a clever thing to do.); *No. (It was not a clever thing to do.)
- (10) Peter avoided the question **cleverly**. [manner]
 (a) I agree. (He avoided the question.); No. (He didn't avoid the question.)
 (b) I agree. (He did so cleverly.); No. (He didn't do it cleverly.)

In (9) the Propositional Content as a whole can be affirmed or denied (see (9a)), but the information conveyed by the evaluative adverb *cleverly* cannot (see (9b)). In (10), where *cleverly* is used as a representational (manner) adverb, it is possible to deny both the Propositional Content as a whole (see (10a)) and the contribution made by the adverb (see (10b)). This confirms that, unlike manner adverbs, evaluative adverbs are, indeed, non-truth-conditional.

⁷ Note that indirect, explicit negation is possible, as shown in the following example (from Ifantidou 1993: 84):

- (i) Peter: **Frankly**, this party is boring.
 Mary: You're not being frank. I've just seen you dancing with the blonde beauty in blue.

Although non-truth-conditional, these adverbs are still lexical (in FDG) or conceptual (in Relevance Theory); as such the content (or applicability) of the adverb itself can still be evaluated or challenged (cf. Rouchota's (1998: 115) distinction between truth-conditional and truth-evaluable; see also Asher 2000: 33).

II. The scope test

The scope (or ‘embedding’) test (e.g. Ifantidou 1993; Asher 2000; Papafragou 2006; see also Cohen 1971; Wilson 1975) consists in embedding the sentence containing the adverb into a conditional to see if the adverb falls within the scope of *if*; if it does, the adverb is truth-conditional; if not, it is non-truth-conditional. To apply the test to the evaluative adverb *stupidly*, the sentence in (11a) is embedded into a conditional, yielding example (11b):

- (11) (a) Mary has **stupidly** decided not to give the plenary.
 (b) If Mary has **stupidly** decided not to give the plenary, we must ask someone else.

Since the truth-conditions of the main clause (i.e. the conditions under which we must ask someone else) are not affected by the presence of the adverb *stupidly* (whether or not it was a stupid thing for Mary to decide not to give the plenary is in this respect irrelevant), the evaluative adverb *stupidly* is not truth-conditional.

As a manner adverb, on the other hand, *stupidly* is truth-conditional: in example (12b), George will have failed the test only if (i) he has answered the question, and (ii) if he has done so stupidly.

- (12) (a) George has answered this question **stupidly**.
 (b) If George has answered this question **stupidly**, he will have failed the test.

3.2 Syntactic features

The unexpected combination of non-truth-conditionality and representational function is reflected in the syntactic behaviour of evaluative adverbs. As several linguists have pointed out, adverbs differ with regard to the possibility of *clefting and questioning*, as well as with regard to whether they do or do not fall within the scope of (predication) pronouns, ellipsis or negation. This has often been used as a means to distinguish so-called parenthetical adverbs from sentence adverbs (Quirk *et al.* 1985: 504–5, 612–31; Espinal 1991: 729; Haegeman 2009 [1991]). These properties, however, are a direct result of the non-predicational nature of the adverbs involved (rather than from their syntactic or prosodic non-integration), as clefting and questioning are restricted to elements that are part of the predication. The fact that, unlike manner adverbs, evaluative adverbs do not allow for questioning and clefting (compare (12aB) and (12a') to (1c)⁸ and (1c')) thus indicates that they are not part of the predication (see also Keizer 2018).

- (12) (a) George has answered this question **stupidly**.
 A: How did George answer the question?
 B: Stupidly.
 (12) (a') It was **stupidly** that George answered the question
 (1) (c) I **selflessly** took on the job (COCA, magazine)
 A:???
 B:*Selflessly.

⁸ Note that there is no way of eliciting the evaluative adverb.

(1) (c') *It was **selflessly** that I took on the job.

This also explains why these adverbs fall *outside the scope of predicate negation, ellipsis and pronominalization*. For negation, this is illustrated in example (1a), repeated here for convenience, where the adverb *wisely* clearly has scope over the negator *not*; for pronominalization, this is shown in example (13), where the adverb *wisely* is outside the scope of the pronoun *it*.

(1) (a) Flo had flared when he'd raised that possibility and he'd **wisely not** brought it up again.
(COCA, fiction)

(13) Girardi **wisely** turned Baltimore down. He said **it** was because of his family. (COCA, newspaper)

In both these respects, evaluative adverbs behave like interpersonal adverbs, since both groups of adverbs are not part of the predication. It would be premature, however, to deduce from this that evaluative adverbs are interpersonal, since in other respects, such as (constraints on) modification, clausal position and embedding, they behave as representational adverbs. When it comes to *modification*, for instance, these adverbs allow for a range of representational adverbs – *too*, *so*, *almost* – that cannot be used to modify interpersonal modifiers:⁹

(14) (a) he'd found the still and silent epicenter of all that fatal action he had **so wisely** avoided.
(COCA, fiction)

(b) They **too recklessly** reduce the myriad complexities of the Christian world into a bogus behemoth, (www.hoover.org/research/can-iran-become-democracy)

(c) 'They have **almost recklessly** continued to proceed on a path that is going nowhere,' Dr Ferguson said. (NOW, JM)

So far, we have been able to establish that, in terms of syntactic behaviour, evaluative adverbs, in keeping with what has been proposed in the literature, are representational. The next question to be answered is to which representational layer they belong. Here it is useful to look at their relative clausal position and occurrence in the complements of verbs. First of all, the *relative clausal position* of evaluative adverbs confirms their

⁹ It is true that *so* and (*all*) *too* can sometimes be used with attitudinal modifiers, as shown in the following examples (p.c. Lachlan Mackenzie):

(i) Our focused attention is on what we care about. Thus, some people only notice the bad while others see the good in everything.

(ii) This is *so unfortunately* true. (<https://medium.com/@brianpennie/this-is-so-unfortunately-true-c9481c0d317a>)

(iii) This scenario, unlike the concentration camp reality that *all too unfortunately* occurred, is exceedingly improbable (<https://books.google.pt/books?isbn=1617925403>)

Note, however, that *so* and *too* in these examples no longer fulfil their original representational function (indicating a degree in the case of *so*, and too high a degree in the case of *too*), but have developed an interpersonal function, expressing (dis)approval or regret on the part of the speaker (compare *This is so 1980*; *We're so not having this conversation*; *That's really too bad*; *Too true*). Similarly, semantically bleached adverbs like *rather* and *quite* can often be found in combination interpersonal modifiers (e.g. *quite frankly* in (15)). In other words, what is relevant here is not so much that interpersonal adverbs cannot be modified, but that they only allow for modifiers that are themselves interpersonal.

representational status, as they follow interpersonal adverbs (example (15); cf. Hengeveld & Mackenzie 2008: 311–14). Note, in addition, that they do not occur at the lowest representational level, as indicated by the fact that they precede manner adverbs (example (16)); this seems to support their analysis as SoA or propositional adverbs.

- (15) (a) And because of that, I think we embraced them even more, and **quite frankly selfishly** (***selfishly quite frankly**) enjoyed the fact that we got to keep them to ourselves.
(<http://embed.scribblelive.com/Embed/v7.aspx?Id=2687300&Page=1&overlay=false>)
- (b) they will be asked to determine whether the Boy Scouts should pay up to \$25 million in punitive damages for **allegedly recklessly** (***recklessly allegedly**) allowing Dykes -- who had admitted to a bishop and Scouting coordinator that he'd molested 17 Boy Scouts -- to continue to associate with the troop. (COCA, US)
- (16) And as the kids **wisely quickly** vacated the pool, (<https://books.google.at>, James G. Davies, *Shifts*, p. 336)

When it comes to the relative ordering of epistemic and subject-oriented adverbs, however, the picture is less clear. On the basis of examples like those in (17), Cinque (1999) and Ernst (2002) conclude that epistemic modals scope over evaluative adverbs (taking a higher position in the structure of the clause; e.g. Ernst 2002: 19, 105):

- (17) (a) She **probably** has **wisely** returned the money.
(b) *She **cleverly** has **probably** returned the money.

Haumann (2007: 360; see also 411), on the other hand, uses examples (18) and (19) to argue that evaluative (subject-oriented) adverbs have a higher base position than epistemic adverbs:

- (18) (a) ***Probably**, he **clumsily** had tried to open the box.
(b) ***Possibly**, she **foolishly** had pulled her stitches.
- (19) (a) **Wisely** they **probably** decided to go... (www)
(b) **Foolishly** she **possibly** would pull her stitches.

As shown in example (20), instances of a modal adverb preceding (scoping over) an evaluative adverb are not ungrammatical:

- (20) (a) Yamaha **certainly** has **wisely** installed a boost system in their genset. (www.foestrivierforums.com/forums/f30/yamaha-ef3000ise-vs-honda-eu2000i-companion-2-vs-honda-eu3000is-21195.html)
- (b) **Probably** he **wisely** concluded that there could be no defense for such a straying away from the [sic] 'narrow path.' (<https://cdnc.ucr.edu/cgi-bin/cdnc?a=d&d=DAC18700505.2.24>)

However, the reverse order, regarded as ungrammatical by Cinque and Ernst, also seems to be possible:

- (21) **Stupidly** they **probably** think they have their thirst under control. (www.wattpad.com/362362161-empire-trei)

Finally, some examples can be found of these adverbs occurring adjacently; again both orders seem to be acceptable:

- (22) (a) They **probably foolishly** believed the American Defense Department Big Lie that radiation does not hurt you. (NOW, US)¹⁰
 (b) Last year in MUT I **foolishly probably** spent between \$750-\$1000. (<https://answers.ea.com/t5/FIFA-15/Packs/td-p/4556769>)

In other words, the evidence from clausal position clearly confirms that evaluative adverbs operate at the Representational Level; the exact layer of analysis, however, remains unclear, with examples (20) and (22a) suggesting that they occur at the layer of the SoA or Episode, while examples (21) and (22b) seem to indicate that they function at the layer of the Propositional Content (an analysis also proposed by Dik *et al.* 1990; Ramat & Ricca 1998: 192).

The idea that evaluative adverbs may in fact occur at a layer higher than the SoA is further supported by their scope in relation to other kinds of modifiers. Let us first consider example (23). Here the locative expression *in the wagon* modifies the SoA (the two sisters saying their goodbyes); since the SoA modifier clearly falls within the scope of *wisely* (it was wise of them to have performed the action in the wagon), we can conclude that *wisely* here functions at least at the layer of the SoA.

- (23) Having **wisely** said their good-byes **in the wagon**, she and Sister Ida exchanged a chaste kiss, though tears were pouring down the nun's cheek. (COCA, fiction)

Turning to the two examples given in (24), however, we see that evaluative adverbs can also take an Episodic modifier in their scope. Thus, whereas in (24a) it is plausible to assume that the time modifier *in 2006* falls outside the scope of *wisely* (which belongs to the layer of the SoA), the time adverbial *in 1996* in (24b) clearly falls within the scope of *wisely*, which means it must be analysed as a modifier of the Episode:

- (24) (a) Washington **wisely** undertook a similar goodwill effort **in 2006** by sending the Mercy into South and Southeast Asia. (COCA, academic)
 → It was wise of Washington to undertake a similar goodwill effort, which they did in 2006
 (b) Former Enron president **wisely** left firm **in 1996**, uncomfortable with 'asset light' strategy. (COCA, magazine)
 → It was wise of the former Enron president to leave the firm in 1996 (i.e. before the fast expansion started (1997–2000) which led to the company's collapse and the ensuing scandal (2001))

Moreover, as we have seen, evaluative adverbs can also scope over epistemic adverbs (see examples (21) and (22b)), suggesting that they belong to the layer of the Propositional Content.

To complicate matters even further, however, evidence from the behaviour of these adverbs in *embedded environments* suggests that they must belong to a layer lower than that of the Propositional Content. Thus, as shown in (25), they readily occur in the SoA complement of the verb *prevent* – a clear indication that these adverbs do not

¹⁰ Note that a narrow scope reading of *probably* (modifying *foolishly*) is not plausible here: it is the fact that they believe the American Defense Department Big Lie that is considered to be foolish, and it is this whole proposition that is regarded as probable.

operate at the layer of the Propositional Content (cf. Hengeveld & Mackenzie 2008: 363–5):

- (25) (a) Sadly, when I saw the Chief he was powered down, to **prevent** passers by from **stupidly** sticking their fingers into the running fan blades of the GTX 1080. (NOW, US)
 (b) But he asks his men to strap him to the ship's mast to **prevent** him from **recklessly** heeding the Sirens' call. (<https://hbr.org/2013/01/leaders-unplug-your-ears-and-l>)

Interestingly, however, the following examples show that these adverbs can even appear in the complement of aspect verbs like *continue* and *be able to*, suggesting that they must belong to the layer of the Configurational Property:

- (26) (a) but when I see a sign that says 'Bridge Out Ahead', I don't need to convince myself by **continuing** to **foolishly** drive on... (NOW, AU)
 (b) With the bundle, he **is able** to **sensibly** have an assortment of impeccable business shirts available at all times (NOW, US)
 (c) they **continue** to **recklessly** lump all drug-related deaths together, (COCA, CA)

Clearly, these data are at odds both with the generally accepted view of these adverbs as modifying the SoA, as well as with the previous observations, based on clausal position and scope relations, that these adverbs can occur at the layer of the Propositional Content.

Note finally that the fact that these adverbs can be part of an embedded Propositional Content (irrespective of the precise layer of analysis) also means that they are not necessarily speaker-bound. Thus, in example (27), it is not the speaker who evaluates the embedded predication, but the subject of the main clause. This provides us with further evidence that these adverbs, despite their subjective, evaluative nature, are indeed representational.

- (27) They **believe** their city **wisely** refused to build large levees, (COCA, academic)

The question that now arises is whether there is a way of analysing these adverbs that reconciles their truth-conditionality with their representational status, and which, at the same time, can account for the seemingly conflicting syntactic evidence concerning the exact layer of analysis. In the next section, it will be argued that such an analysis is indeed possible.

3.3 *Evaluative adverbs as (parts of) separate Propositional Contents*

As we have seen above, FDG analyses non-truth-conditional modifiers (e.g. illocutionary, attitudinal adverbs) at the Interpersonal Level, and truth-conditional modifiers (e.g. time, place and manner adverbs) at the Representational Level. All these modifiers are, however, represented in the same way, namely as restrictors of the variable at the relevant interpersonal or representational layer (Hengeveld & Mackenzie 2008: 14, 83; cf. Dik 1997: 132–6).

Nevertheless, it will be clear that restrictors play a different function at the two levels. At the Interpersonal Level, elements are analysed as restrictors (modifiers) when they provide additional information about an interpersonal layer (typically in the form of a speaker's comment on the unit in question) and are prosodically integrated. In a

sentence like (28), for instance, the prosodically integrated modifier *frankly* is regarded as restrictive and is therefore represented as restricting the head of the Illocution (DECL) (Hengeveld & Mackenzie 2008: 82):

- (28) (a) I **frankly** fail to see the point of all this.
 (b) (F_I: DECL (F_I): frankly (F_I))

The theory also provides for the analysis of non-restrictive expressions at the Interpersonal Level (adverbs, relative clauses), but only when these are prosodically non-integrated, in which case they are analysed as separate Discourse Acts (Hengeveld & Mackenzie 2008: 49–50, 58, 81–2), as in example (29c) (see also Keizer 2018):

- (29) (a) **Frankly**, I fail to see the whole point of this.
 (b) **Quickly**, we don't have a lot of time left. (COCA, spoken)
 (c) [(A_I) (A_I)]

Traditional restriction, in the sense of restricting the potential set of referents, on the other hand, takes place at the Representational Level, where modifiers restrict the application of their head (Hengeveld & Mackenzie 2008: 109, 115, 121); this is what we find in the case of representational modifiers such as place and time indicators, which restrict the designation of the SoA and Episode, respectively, or adjectival modifiers, which restrict the designation of an Individual.

In sum, in FDG:

- prosodically integrated adverbs are analysed as restrictors (modifiers) at the Interpersonal or Representational Level;
- non-truth-conditional adverbs are analysed at the Interpersonal Level; they serve as speakers' comments on the interpersonal unit they modify and are speaker-bound;
- truth-conditional adverbs are analysed at the Representational Level; they restrict the designation of the units they modify and are not necessarily speaker-bound;
- prosodically non-integrated expressions (adverbs, phrases and clauses realized as separate Intonational Phrases) are analysed as Discourse Acts at the Interpersonal Level.

The evaluative adverbs discussed above, however, do not fit this picture: they are prosodically integrated (part of a larger Discourse Act) and representational; as such they should be (and have been) analysed as restrictors at the Representational Level. At the same time, however, they are non-truth-conditional, i.e. they do not have a restrictive function. This means that they cannot be analysed as restrictors, and therefore not as modifiers in FDG.

Instead, I would like to suggest that, just as non-restrictive expressions at the Interpersonal Level are analysed as separate Discourse Acts, non-restrictive expressions at the Representational Level be analysed as (part of) a separate Propositional Content, as shown in (23') for example (23):

- (23) Having **wisely** said their good-byes **in the wagon**, ... (COCA, fiction)
 (23') (p_i: (ep_i: (ant e_i: (f_i: [(f_j: say (f_j)) (1x_i)_A (1e_j)_U] (f_i)) (e_i: (l_i) (e_i)) (ep_i)) (p_i))
 (p_j: (f_j: [(f_k: wise (f_k)) (e_k)_U] (f_j)) (p_j))_{Add}

In (23'), we have two Propositional Contents, p_i and p_j (corresponding to a single Communicative Content at the Interpersonal Level). The second Propositional Content (p_j) consists of a Configurational Property (f_j^c) in which the Property 'wise' (f_k^l) functions as a non-verbal predicate taking the SoA (e_i) contained in the first Propositional Content as its argument (indicated by co-indexation).¹¹ The fact that the adverb *wisely* has scope over the place adverb *in the wagon* (l_i) shows that the argument of the non-verbal predicate must (at least) take the form of an SoA. The second Propositional Content cannot be used independently; it provides additional information about the unit in question. Therefore, it is analysed as a dependent Propositional Content with the semantic function Addition (Add). Since we are dealing with two separate Propositional Contents, neither affects the truth-conditionality of the other.

However, the argument of the non-verbal predicate within the second Propositional Content need not be an SoA. In those cases, for instance, where it occurs within the complement of an aspectual verb, it will take the form of a Configurational Property (f_j^c in example (26a')). When the evaluative adverb has scope over a time modifier, the argument will take the form of an Episode (ep_i in example (24b')), and in those cases where it has scope over (and linearly precedes) an epistemic adverb, the argument will take the form of Propositional Content (p_i in example (22b')):

(26) (a) by **continuing** to **foolishly** drive on...

(26) (a') (p_i : ... (f_i^c : [$(f_i^l$: drive-on (f_i^l)) ($1x_i$)_A] (f_i^c)) ... (p_i))
 (p_j : (f_j^c : [$(f_j^l$: foolish (f_j^l)) (f_i^c)_U] (f_j^c)) (p_j))_{Add}

(24) (b) Former Enron president **wisely** left firm **in 1996**,

(24) (b') (p_i : (past ep_i : (e_i : (f_i^c : [$(f_i^l$: leave (f_i^l)) ($1x_i$)_A] ($1x_2$)_u] (f_i^c)) (e_i)) (ep_i): (t_i) (ep_i)) (p_i))
 (p_j : (f_j^c : [$(f_j^l$: wise (f_j^l)) (ep_i)_U] (f_j^c)) (p_j))_{Add}

(22) (b) Last year in MUT I **foolishly probably** spent between \$750-\$1000.

(22) (b') (p_i : (past ep_i : (e_i : (f_i^c : [$(f_i^l$: spend (f_i^l)) ($1x_i$)_A] ($1x_j$)_u] (f_i^c)) (e_i): (l_i) (e_i)) (ep_i): (t_i) (ep_i)) (p_i))
 (f_j^l : probable (f_j^l)) (p_i))
 (p_j : (f_j^c : [$(f_k^l$: foolish (f_k^l)) (p_i)_U] (f_j^c)) (p_j))_{Add}

In this analysis, the evidence from clausal position, scope relations and embedding is not conflicting: as non-verbal predicates in a separate Propositional Content, evaluative adverbs can take different representational units (from the Configurational Property upward) as their argument. This would thus explain the lack of consensus among linguists when it comes to the analysis of these adverbs: in many cases, evaluative adverbs do indeed modify the SoA (cf. Cinque 1999; Ernst 2002; Mittwoch *et al.* 2002; Hengeveld & Mackenzie 2008); in other cases, however, they scope over the Propositional Content (cf. Haumann 2007: 411; Dik *et al.* 1990; Ramat & Ricca 1998). In addition, they may scope over the Episode and the Configurational Property.

¹¹ The argument of the non-verbal predicate is assigned the semantic function Undergoer, as it is regarded as undergoing the process of classification (similar to classifying copular constructions; Hengeveld & Mackenzie 2008: 204).

Finally, note that the analysis proposed can also be extended to those cases where the evaluative adverb precedes an attributive adjective within an NP (see also Lewis 2018), as in the following examples:

- (30) (a) When I was a child and then older she told me increasingly long and horrific stories about unlucky, **stupidly curious** children; trespassing, beer drinking, vandalism-on-the-brain teenagers; (COCA, fiction)
 (b) Soros thinks America's approach to drug abuse is **stupidly punitive**. He supports programs to give away clean needles. (COCA, spoken)

It will be clear that in both these cases a manner reading of the adverb is not intended: in (30a) the children in question were not curious in a stupid manner; instead it was stupid of them to be curious; similarly, in (30b) Soros does not object to the fact that America's approach is being punitive in a stupid manner – he objects to the fact that it is punitive, which he considers a stupid thing. As in the case of evaluative adverbs with clausal scope, the adverbs in these examples are non-truth-conditional. This means that the best way to analyse these adverbs is as follows:

(30) (a) stupidly curious children

- (30) (a') $(mx_i: [(f_i^1: \text{child } (f_j^1)) (x_i): (f_j^1: \text{curious } (f_k^1)) (x_i)])$
 $(p_i: (f_i^c [(f_i^1: \text{stupid } (f_j^1)) (f_j^c: [(f_j^1) (mx_i)_{\cup}] (f_j^c))_{\cup}] (f_i^c)) (p_i)_{\text{Add}}] (x_i))$

Here the Individual x_i has been provided with a configurational head, consisting, on the one hand, of the first and second restrictors (' x is a child and curious'), and, on the other, of a separate Propositional Content. This second, dependent, Propositional Content is headed by a Configurational Property (f_i^c), consisting of a non-verbal predicate (the Property f_i^1 'stupid'), which takes as its argument another Configurational Property (f_j^c), consisting of the non-verbal predicate *curious* (f_j^1 , co-indexed with the second restrictor) and its argument (x_i , co-indexed with the NP as a whole). The second Propositional Content thus provides the additional information that 'the children (x_i) being curious (f_j^1) was stupid (f_k^1)'.

4 Non-restrictive attributive modifiers

4.1 Truth-conditionality / non-restrictiveness

As has often been pointed out, not all prenominal adjectives function as restrictors (e.g. Jespersen 1924: 111–12; Bolinger 1967, 1989: 198; Quirk *et al.* 1985: 1239; Ferris 1993; Biber *et al.* 1999: 242; Huddleston *et al.* 2002: 1353; Larson & Marušić 2004: 275; Alexiadou *et al.* 2007: 334–5; Cinque 2010: 6–7; Matthews 2014: 168). These non-restrictive adjectives come in various kinds. Firstly, there are adjectives like *poor* in *Poor you!*, or *mere* in *a mere child*, which have a pragmatic function, and in FDG are analysed at the Interpersonal Level (*poor* as a modifier of the Referential Subact, expressing the speaker's sympathy towards the referent, and *mere* as a mitigating operator specifying the Ascriptive Act evoking the property 'child'). As interpersonal elements, they will not be discussed here.

Non-restrictive adjectives can, however, also be representational in nature, in which case they designate a property to be attributed to a referent (set). Thus, whereas it is typically assumed that in a phrase like *a blue car*, the first restrictor ‘car’ restricts a set of Individuals to those with the Property ‘car’, with the second restrictor ‘blue’ further restricting the referent set to those cars that have the additional Property ‘blue’ (e.g. Hengeveld & Mackenzie 2008: 109, 115; see also Dik 1997: 132–6), this need not always be the case.

Non-restrictive representational adjectives can be divided into (at least) two groups. The first group consists of adjectives denoting intrinsic, necessary features of the referent (set) denoted by the noun, as in *white snow* (white being a prototypical feature of snow) or in Bouchard’s (2002: 94–5) example of *les flegmatiques britanniques*, where adjective and noun together describe a generic concept (the assumption being that all Britons are phlegmatic; cf. Ferris 1993: 118). In these cases, the adjective does not restrict the denotation set of the noun (i.e. there is no intersection between the set of Britons and the set of entities with the property ‘phlegmatic’). Bouchard suggests that the noun does not actually have its own denotation set at all; instead, adjective and noun together form one complex property, combining at the level of the intension to denote a single set (Bouchard 2002: 95).

Note, however, that although these adjectives are indeed non-restrictive, denoting intrinsic properties of the referent(s) denoted by the noun, they do still denote a property of the overall referent: it is still the Britons that are phlegmatic, not their Britishness. In this respect they differ from true intensional phrases like *the present president* or *a criminal lawyer* (see also section 4.3 below). Moreover, in the majority of cases the non-restrictive adjective does not combine with the noun to denote a ‘unitary concept’ (Givón 1993: 268), but instead assigns an additional, non-intrinsic property to a referent. In those cases, there is no reference to a generic concept; instead, a property is being assigned to a specific discourse referent, one that is typically assumed to be identifiable for the hearer (retrievable or inferable from previous discourse of the immediate or larger situation;¹² e.g. Hawkins 1978; Prince 1981). Examples of this second group of non-restrictive adjectives can be found in example (2) (repeated here for convenience).

- (2) (a) There were seven of us, my three kids, wife, my father-in-law, my **old** mother and me (COCA, spoken)
 (b) Our **friendly** staff is here to make sure that you have an outstanding experience. (www.brecksvilledermatology.com/meet-us/our-friendly-staff/)
 (c) The **prolific** Toni Morrison returned this year with her first novel set in the current time. (COCA, magazine)

In (2a), the identity of the referent of the NP as a whole can be assumed to be inferable for the hearer on the basis of the sense of the noun *mother* and the presence of the possessor *my*. The adjective *old*, being non-restrictive, does not contribute to the identification of the referent, but is added because the speaker considers this property

¹² For a similar claim about past participles, see e.g. James (1979) and Šaldová (2005).

to be relevant in the given discourse context. In (2b), the adjective *friendly* is potentially ambiguous, but the context clearly favours a non-restrictive reading, in which all the people we employ (again an inferable set) have the property *friendly*. Finally, in (2c), where the NP is headed by a proper name, the referent is assumed to be identifiable on the basis of assumed shared long-term knowledge; the adjective once again plays no role in the identification process.

In what follows, discussion will be restricted to this second group of non-restrictive adjectives; both groups, the generic-concept and specific-discourse-referent adjectives, will, however, be provided with the same analysis. In both cases it will be assumed that the head noun does have its own denotation, which is identical to that of the NP as a whole, and that the non-restrictive adjective provides an additional property. The only difference between the two groups is that on the generic use, the adjective, denoting a prototypical feature of the referent, is discourse-new, but hearer-old (part of speaker-hearer shared knowledge; Prince 1992), whereas on the discourse use the adjective denotes information that is both discourse-new and hearer-new. In both cases, however, the adjective provides information that is regarded as relevant (salient) in the given discourse.

So far, FDG has analysed all prenominal adjectives as modifiers, typically at the layer of the Individual, as in the case of *an expensive watch* in example (31):

- (31) (a) an expensive watch
 (b) $(1x_i: (f_i^1: \text{watch } (f_i^1)) (x_i): (f_i^2: \text{expensive } (f_i^2)) (x_i))$

In (31b) the adjective *expensive* functions as a modifier of the referent (Individual) represented by the variable x_i ; the Nominal Property ‘watch’ (f_i^1) functions as the first restrictor (the head), the Adjectival Property ‘expensive’ (f_i^2) as the second restrictor (the modifier). The relation between head and modifier is thus one of intersection, restricting the referent set to those entities that are both watches and expensive.¹³

Such an analysis is, however, clearly inappropriate in the case of the non-restrictive adjectives in (2), where the adjective merely adds a property to a previously established set of entities. Here the relation between head and modifier is not intersective: rather than referring to a subset of entities with the property ‘our staff’ who have the property ‘friendly’, the property ‘friendly’ is predicated of all the entities with the property ‘(our) staff’.¹⁴ From this it follows that non-restrictive (non-truth-conditional) adjectives should not be analysed as restrictors, i.e. not as modifiers. This of course raises the question of how to deal with these adjectives.

Note finally that this phenomenon is not restricted to adjectives, but also applies to prenominal past participles: in (32a) there is only one, identifiable sun, which is at that

¹³ Dik (1997: 132–6) argues that the relation between the modifier and the head is not so much one of intersection, but rather of subsection (which allows us to identify the head of the phrase, and thus the difference between, for instance, *a Marxist Maoist* and *a Maoist Marxist*).

¹⁴ The possessor *our* does, of course, have a restrictive function, limiting reference to those staff that are employed by the speaker. This set is not, however, further restricted by the presence of the adjective *friendly*. Additionally, the possessor *our* provides the NP with the definiteness typically required for a non-restrictive reading (see also below).

moment hidden, and in (32b) the most likely reading is that there is only one curtain between the room and the balcony, which is drawn. In both cases, therefore, the past participle does not restrict the set of potential referents.

- (32) (a) Across the road the cemetery hill shimmered under the last rays of the **hidden sun**.
(COCA, fiction)
(b) Air admitted from the balcony under the folds of the **drawn** curtain grazes his face.
(COCA, fiction)

4.2 Formal features

What is important from the point of view of FDG is that the non-restrictiveness of prenominal adjectives and past participles (henceforth referred to as adjuncts)¹⁵ is also reflected in their formal behaviour. Starting at the Morphosyntactic Level, we find that in those cases where an adjunct can go in both prenominal and postnominal position, there is a strong tendency, in both Germanic and Romance languages, for non-restrictive adjuncts to precede the noun (e.g. Alexiadou *et al.* 2007: 334; Cinque 2010: 7–8). Thus, in Romance languages, which more readily allow for both positions, the postnominal position is typically used to code restrictivity, while a prenominal position triggers a non-restrictive reading.^{16,17} In the following example from Portuguese, for instance, the adjunct *hospitalar*, being used restrictively (indicating a particular kind of discharge), is in its usual postnominal position, whereas the adjective *polémica*, in prenominal position, indicates that the property denoted is presupposed ('the law, which everyone knows is controversial, ...'), and is, as such, used non-restrictively; placing it in postnominal position – *a lei polémica* – would trigger a restrictive reading (the controversial law as opposed to other, more generally accepted, ones) (Lachlan Mackenzie, p.c.).

- (33) O Presidente d-a República teve **alta**
M.DEF president of-F.DEF republic have.PST.PRF.3SG all.clear
hospitalar este domingo. Ainda no hospital Curry Cabral,
medical this Sunday still in.M.DEF hospital Curry Cabral

¹⁵ From now on I will use the term 'adjunct' as a cover term for all the adverbs and attribute adjectives and past participles discussed here (restrictive or non-restrictive) to avoid having to use the term 'modifier', which in FDG only applies to restrictive elements.

¹⁶ As pointed out by Cinque (2010), Romance languages present the exact mirror of Germanic languages in this respect: in the former, the prenominal position triggers a non-restrictive reading, whereas the postnominal position, although typically triggering a restrictive reading, also allows for a non-restrictive reading; in the latter, it is the prenominal position that allows for both interpretations, while the postnominal reading is necessarily restrictive.

¹⁷ (Non-)restrictiveness is not the only factor that affects the position of the adjunct vis-à-vis the head. Other semantic factors are the distinction between individual-level (permanent-property) and stage-level (temporary-property) readings (i.e. Bolinger 1967; James 1979; Ferris 1993: 46–8, 53) and between the intensional and extensional use of the adjunct (e.g. Bouchard 2002; Alexiadou *et al.* 2007: 306, 329–330; Cinque 2010: 9–10; cf. Ferris's (1993) associative adjectives). I will come back to the latter distinction, and its interaction with (non-) restrictiveness, below. In addition, discourse-pragmatic factors have been argued to play a role, such as the presupposed/non-presupposed nature of referent of the NP (James 1979) or the presence/identifiability of a presupposed element (Šaldová 2005); these factors will not be discussed in this article.

em Lisboa, Marcelo fal-ou sobre a **polémica**
 in Lisbon Marcelo speak.PST.PRF.3SG on F.DEF controversial
lei que alter-a o financiamento a-o-s partido-s.
 law.REL alter- PRS.3SG M.DEF financing to-M.DEF-PL party-PL
<http://sicnoticias.sapo.pt/pais/2017-12-31-Marcelo-vai-analisar-lei-do-financiamento-dos-partidos>)

‘The President of the Republic was discharged from hospital this Sunday. While still in Lisbon’s Curry Cabral Hospital, President Marcelo spoke about the controversial law that alters the financing of the parties.’

In English, which is far less flexible when it comes to the placement of (unmodified) adjectives within the NP, the postnominal position is highly restricted (basically to adjectives ending in *-ible/-able* and to certain groups of past participles). However, in those cases where an adjective or past participle can occur in both positions, the postnominal position cannot trigger a non-restrictive interpretation (e.g. Bolinger 1967; Larson & Marušić 2004: 275; Matthews 2014: 168). This is shown in example (34) (from Larson & Marušić 2004: 275) for the adjective *unsuitable*:

- (34) (a) Every **unsuitable** word was deleted.
 Restrictive: ‘Every word that was unsuitable was deleted’.
 Non-restrictive: ‘Every word was deleted; they were unsuitable’.
 (b) Every word **unsuitable** was deleted.
 Restrictive: ‘Every word that was unsuitable was deleted’.
 #Non-restrictive: ‘Every word was deleted; they were unsuitable’.

Some attested examples are given in (35). Although in (35a) *available* is strictly speaking ambiguous, the context triggers a non-restrictive reading. Placing the adjective in postnominal position, however, leads to a restrictive reading (incompatible with the demonstrative *these*).

- (35) (a) The advantages and disadvantages of these **available** options are briefly discussed here.
 (COCA, academic)
 (b) The advantages and disadvantages of *these/the options **available** ...

In English, the difference between the two positions in terms of restrictivity is clearest in the case of past participles, which occur more freely in both positions. Consider, for instance, the two examples in (36), both of which contain the combination of the past participle *arrested* and the noun *men*. In (36a) the past participle is used prenominal, which, in principle, allows for both a restrictive and a non-restrictive interpretation; the context, however, favours a non-restrictive reading (there is only one relevant (and inferrable) set of men, namely those listed in the preceding sentence). In (36b), on the other hand, the past participle in postnominal position is used restrictively, in order to enable the listener to identify the set of men in question.

- (36) (a) Look what happened here in Brooklyn when police moved in on this chop shop. They made arrests, sent the **arrested men** to the police station and before they could finish their paperwork, one of the **arrested men** was back, (COCA, spoken)

- (b) The families are very skeptical about all this. The mother of one of the **men arrested** said if my son were a terrorist, the Earth would open up and swallow me. The men will appear in court here today (COCA, spoken)

In many cases, however, ambiguity between the two readings remains, due to the fact that whereas the postnominal position triggers a restrictive reading, the prenominal position allows both interpretations. This means that in languages like English, where most adjectives, as well as many past participles, can only occur prenominal, position is not very helpful in coding the (non-)restrictiveness of the adjective. In some cases, however, prosodic features may provide a clue. Thus, non-restrictive adjuncts cannot be used contrastively (since all members of the set designated by the noun have the property designated by the adjunct, there is no contrast with members that do not have this property), whereas restrictive adjuncts can: the examples in (37a), where only a non-restrictive reading is available, are unacceptable, while the contrastive adjectives in (37b) trigger a restrictive reading:

- (37) (a) *my OLD mother (see (2a)); *the HIDden sun (see (32a))
 (b) every UNSuitable word (see (34)); these aVAILable options (see (35a))

In non-contrastive contexts, however, there seems to be little difference in prosodic realization between restrictive and non-restrictive prenominal adjectives,¹⁸ which means that their interpretation (as restrictive or non-restrictive) depends entirely on context. Nevertheless, given the positional and prosodic restrictions described above, it will be clear that non-restrictive adjectives and past participles cannot be given the same analysis as restrictive ones.

4.3 *Non-restrictive prenominal adjectives as (parts of) separate Propositional Contents*

The adjectives and past participles discussed in the previous sections are clearly representational: they do not express a ‘speaker’s subjective attitude with respect to the referent being evoked’ (Hengeveld & Mackenzie 2008: 121), but have a descriptive function, denoting an additional property of the entity (or set of entities) denoted by the head (cf. Hengeveld & Mackenzie 2008: 109, 115). Nevertheless, they are non-restrictive, and as such cannot be analysed as restrictors (i.e. as modifiers) at the Representational Level.

¹⁸ An examination of a limited number of restrictive and non-restrictive prenominal adjectives from the *Fisher Corpus of Spoken American English* (a collection of telephone conversations recorded in 2003 by the Linguistic Data Consortium (LDC) and released in 2004 and 2005; see Cieri *et al.* 2004) revealed no notable difference in terms of presence/absence or degree of stress, neither in terms of perception nor in their phonetic analysis (for which use was made of the computer program PRAAT; Boersma & Van Heuven 2001). Stress, however, is a notoriously difficult notion to define and measure (e.g. Gussenhoven 2004: 13–15); more research into the prosodic features of non-restrictive prenominal adjectives will therefore be required.

Instead, we can apply the same analysis as proposed for evaluative adverbs to these adjuncts; the only difference is that in this case the argument of the non-verbal predicate in the separate Propositional Content is an Individual:

- (38) (a) The **prolific** Toni Morrison returned this year ... (= (2c))
 (b) $(p_i: (\text{past } ep_i: (e_i: (f_i^c: [(f_i^l: \text{return } (f_i^l) (x_i)_A] (f_i^c)) (e_i)) (ep_i): (t_i) (ep_i)) (p_i))$
 $(p_j: (f_j^c: [(f_j^l: \text{prolific } (f_j^l)) (x_i)_U] (f_j^c)) (p_j))_{\text{Add}}$

The proposed analysis accounts for the fact that the Property ‘prolific’ is non-restrictive (non-truth-conditional): rather than restricting the denotation of a layer within a Propositional Content p_i , this Property functions as a non-verbal predicate in a separate, dependent Propositional Content p_j , providing additional information about a particular layer in p_i (in this case an Individual).

The question now arises whether the analysis may also apply to the next layer down, that is to the Nominal Property (f^l) functioning as the head of the Individual. This does indeed seem to be the case in NPs for so-called intensional adjectives. So far, the discussion of non-restrictive adjectives in this section has been restricted to extensionally used adjectives, i.e. adjectives used to assign a property to the referent of the NP as a whole; e.g. *old* in *an old friend* when it refers to the age of the friend in question. On an intensional reading, the adjunct does not designate a property of the referent, but rather modifies the property designated by the noun: it is the friendship that is old, not (necessarily) the friend.¹⁹ The distinction is particularly clear in NPs with deverbal nouns, such as *a beautiful dancer*, where *beautiful* can either be interpreted extensionally (the person who dances is beautiful) or intensionally (describing the manner in which the action of dancing is performed).

Like (non-)restrictiveness, the intensional-extensional distinction is relevant for the position of the adjunct in the NP, in that, in languages where both positions are generally available (such as Romance languages), only prenominal adjectives can have an intensional reading (e.g. Alexiadou *et al.* 2007: 306, 329–30; Cinque 2010: 9). Note, however, that the two distinctions need to be kept apart (see Alexiadou *et al.* 2007: 336), as the restrictive/non-restrictive distinction applies to both extensional and intensional adjuncts.²⁰ This is shown in examples (39) and (40) for the adjective *old* in combination with the noun *friend*. In both examples, *old* is used intensionally, modifying the friendship, not the friend. In (39a), it is used restrictively, as is clear from the fact that it contrasts with the adjective *new*. In that case the noun phrase *an old friend* will be represented as in (39b), where the Adjectival Property ‘old’ (f_j^l) modifies the Nominal Property ‘friend’ (f_i^l), with the two properties together restricting the denotation of the Individual (x_i). The adjective *old* thus functions as a restrictor at

¹⁹ For a discussion, see Alexiadou *et al.* (2007, part III, ch. 2). For an FDG analysis of intensional modifiers, see e.g. Van de Velde (2007: 205–6), Hengeveld & Mackenzie (2008: 230, 242), Portero Muñoz (2013: 125) and Keizer (2015: 157). For the terms intension and extension, see e.g. Carnap (1956: 126, 129, 233).

²⁰ It is important to realize that this interaction is restricted to the prenominal position, as it is in this position that adjuncts may be either restrictive or non-restrictive, as well as either intensional or extensional. Adjectives in postnominal position can only be restrictive and extensional.

the layer of the Lexical Property. The analysis is therefore the same as that of the extensionally used adjective *expensive* in example (31b), except that it scopes over a different layer of analysis.

- (39) (a) And while Anderson is **an old friend**, Tech coaches made **a new one** in Lou d'Almeida – Marbury's AAU coach (COCA, newspaper)
 (b) $(1x_i: (f_i^c: \text{friend } (f_i^l)): (f_i^l: \text{old } (f_i^l)) (f_i^l) (x_i))$

In (40a), on the other hand, the intensional adjective *old* is used non-restrictively: it does not restrict the denotation of the head noun, but assigns an additional Property to its denotation. It is therefore analysed in the same way as the other non-restrictive adjuncts discussed in this section, except that the argument of the non-verbal predicate in the dependent Propositional Content is now a Lexical Property (the Nominal Property 'friend', f_j^l , in (40b)).

- (40) (a) Suddenly those eyes were distracted by the flair of a familiar crimson cloak. 'Doctor,' Marlowe called out, stepping into the light to greet **his old friend**. (COCA, fiction)
 (b) $(p_i: \dots (e_i: (f_i^c: [(f_i^l: \text{greet } (f_i^l)) (x_i: (f_j^c: [(f_j^l: \text{friend } (f_j^l)) (x_j)_{\text{Ref}}] (f_j^c)) (f_i^c)) (e_i)) \dots (p_i))^{21}$
 $(p_j: (f_k^c: [(f_k^l: \text{old } (f_k^l)) (f_j^l)_{\text{Ref}}] (f_k^c)) (p_j))_{\text{Add}}$

The examples discussed in this section thus not only show that the analysis proposed for evaluative adverbs can be fruitfully applied to non-restrictive prenominal adjectives and past participles, but also allow us to capture the interaction between restrictive/non-restrictive readings on the one hand, and intensional/extensional readings on the other.

5 Conclusion

This article has been concerned with two groups of (prosodically integrated) modifiers: evaluative ('subject-oriented') adverbs and non-restrictive prenominal adjectives and past participles. What these modifiers have in common, and what makes them interesting, is that both are representational (i.e. low-level) elements and non-truth-conditional/non-restrictive. In the case of the evaluative adverbs, it has been shown that the non-truth-conditional status of these adjuncts triggers a number of specific formal features (in terms of clefting, questioning and scope of (predication) negation, ellipsis and pronominalization), while other syntactic features (e.g. clausal position and distribution) show them to be representational. When it comes to the question of exactly which representational layer these adverbs belong to, however, evidence turns out to be contradictory. Similarly, it has been shown that many prenominal adjectives and past participles, which are clearly representational (attributing properties to the referent or its nominal head), are at the same time non-restrictive (and as such non-truth-conditional). Here, too, the non-restrictive nature

²¹ Where x_j represents the possessor *his*, analysed as an argument of the relational Nominal Property 'friend'; together the relational Property and its argument make up another Configurational Property (f_j^c), functioning as the head of the Individual x_i .

of these elements is reflected in their formal behaviour, imposing restrictions on their phrasal position and prosodic realization. Theoretical accounts of these two groups of modifiers, however, do not reflect the semantic, syntactic and formal properties of these adjuncts, and the interaction between these features, in a principled and insightful manner.

FDG is no exception, as it does not have a way of dealing with non-truth-conditional elements that are at the same time representational elements; so far all these adverbs, adjectives and past participles have been analysed as restrictors (modifiers) of the head at a particular representational layer. In this article, I have proposed a new analysis of these non-truth-conditional/non-restrictive elements in which they are dealt with as non-verbal predicates in a separate, dependent Propositional Content, predicating an additional property of a particular layer in the main Propositional Content. The argument of the non-verbal predicate can be any representational layer: a Lexical Property or Individual in the case of non-restrictive adjectives and past participles, and a Configurational Property, SoA, Episode or Propositional Content in the case of evaluative adverbs. Analysing these elements as (parts of) separate Propositional Contents thus not only captures both their non-truth-conditional/non-restrictive nature and their representational status, but also brings out the similarities between the two apparently quite different groups of adjuncts discussed. In the case of evaluative adverbs, the analysis moreover offers an explanation for the conflicting syntactic evidence (in terms of clausal position/scope and embedding).

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