

Integrating linguistic dimensions: a grammar for adverbs

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1 Introduction

On the one hand, it is well-known that adverbs raise interface problems, on the other, the architecture of HPSG is well suited for expressing the correlations between aspects of the different linguistic dimensions, treating them in a parallel fashion, and representing all of them with feature structures. We will study the interaction of scoping with syntactic properties (grammatical function and position), with incidentality (prosodic property), and with parentheticality (illocutionary status). We represent scope properties as in Ginzburg and Sag (2000).

Our target language is French. The semantic classes of adverbs are well-established cross-linguistically (Molinier and Levrier 2000, Bonami et al. 2004, for French): connectives (*donc* ‘therefore’); speech act adverbs (*franchement* ‘frankly’); evaluatives (*malheureusement* ‘unfortunately’); modals (*peut-être* ‘perhaps’); sentential agentives (*intelligemment* ‘intelligently’ in *Il a intelligemment refusé de répondre* ‘He intelligently declined to answer’); frame (*légalement* ‘legally’); habituais (*généralement* ‘generally’); frequency adverbs (*souvent* ‘often’); temporal localization (*récemment* ‘recently’); apsectuals (*déjà* ‘already’); manners (*intelligemment* ‘intelligently’ in *Il a répondu intelligemment* ‘He answered intelligently’); degree adverbs (*beaucoup*, ‘a lot’, *intensément* ‘intensely’); associative adverbs (*seulement* ‘only’). We leave aside connectives and associatives.

Concerning the behavior that we call “incidentality” and “parentheticality”, the terminology is not so well established: most works on adverbs assume that there is a good correlation between the two, which is not at all what we observe. Incidental adverbs are set apart prosodically from the rest of the sentence while integrated adverbs are realized in the same way as usual nominal or prepositional complements. Parentheticality characterizes an illocutionary status: while non-parenthetical adverbs contribute to the content of the sentence that is taken into account by the speech act (it is part of the asserted content in a declarative clause), parentheticals are external to it, and constitute “commentaries”. Incidentality is a property of occurrences of adverbs, while parentheticality depends on lexical semantics. Consequently, most adverbs can have either an incidental or an integrated realization (1), while adverb classes are specified for their illocutionary status (we note incidental adverbs between ‘-’).

- (1) examples of incidental vs integrated occurrences
- a. Paul a (-) heureusement (-) bien répondu. (evaluative)
Paul has fortunately well answered
 - b. Paul a (-) méchamment (-) refusé de répondre. (agentive)
Paul has nastily declined to answer
 - c. Paul avait (-) souvent (-) un avis tranché. (frequency)
Paul had often a clear-cut opinion
 - d. Paul a (-) longtemps (-) refusé de répondre. (duration)
Paul has for a long time declined to answer

b. Paul va malheureusement souvent à Paris.

$$(6) \left[\begin{array}{c} \text{HEAD} \\ \left[\begin{array}{c} \text{MOD} \\ \text{INCID} \end{array} \right] \left\langle \left[\begin{array}{c} \text{HEAD} \text{ [1]} \\ \text{CONT} \text{ [2]} \end{array} \right] \right\rangle \\ - \end{array} \right] < \left[\begin{array}{c} \text{HEAD} \\ \left[\begin{array}{c} \text{MOD} \\ \text{INCID} \end{array} \right] \left\langle \left[\text{HEAD} \text{ [1]} \right] \right\rangle \\ \text{CONT} \text{ [2]} \end{array} \right]$$

Not so well-known is the possibility for adverbs to be fillers in French. This is possible in two constructions: some adverbs can be topicalized (frame, temporal location, habituals), that is, they occur sentence initially, typically introducing layered topics, as topicalized phrases do in French (Kerleroux and Marandin 2001); other adverbs (manner, degree adverbs) are fillers in a construction which we call “reinforced assertion” (see Godard and Marandin 2006 for an instance of reinforced assertion in Italian). Such adverbs do not raise scope problems, because they are incidentals, and the scope for incidentals is free from ordering constraints, see below. This is because integrated adverbs always follow finite verbs.

3 Incidental adverbs

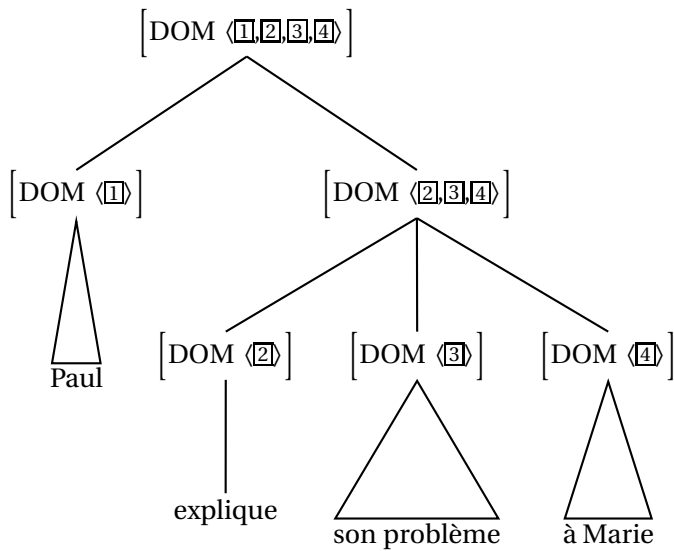
Although the prosodic description is certainly incomplete, it appears that incidentality is a phonological category with different phonetic realizations; in particular, the differences between incidentals and integrated phrases can be neutralized: incidental phrases are either Intonational Phrases or Accentual Phrases, while integrated ones can be either Accentual Phrases or part of AP, but never IP. Most adverbs may be either integrated or incidental (speech act adverbs are always incidentals, degree and light manner adverbs are always integrated). There is a syntactic and a semantic (scopal) correlate to the status of incidental adjuncts (Bonami and Godard 2003, Bonami et al. 2004). Consider the positions (**p**) for adverbs in (3):

(7) **p1** Paul **p2** a **p3** envoyé **p4** ses vœux **p4** à un vieil ami **p4**
 Paul has sent his best wishes to an old friend

Adverbs are incidental in **p1** (except for a few exceptions); they can be incidental or integrated in **p3** and **p4**, with some constraints: light adverbs do not occur in **p4**, and sentential adverbs can appear in **p4** only if incidentals. Such constraints show that incidental constituents must be taken into account in syntax. It also has consequences in terms of scope relative to other elements, summarized in (8).

- (8) a. Incidental adverbs take scope over integrated adverbs.
- b. Scope among integrated adverbs follows linear order.
- c. Scope among incidental adverbs is syntactically unconstrained.

In order to account for their scopal properties, we analyze them as adjuncts to the sentence (an adjunct has scope over the head), relying on a linearization approach à la Reape (1994) for their placement: (i) each word or phrase is associated with an order domain; (ii) in French, the domain of a headed phrase is obtained by shuffling the domain of the head with the signs it combines with; (iii) order rules apply to domains. As a result, a typical sentence has in its DOMAIN a flat list consisting of the verb, its valents, and the adjuncts, or fillers it has combined with. Incidental adjuncts are combined at sentence level, but they linearize anywhere (order rules take [INCID ±] into account).



4 Parenthetical adverbs

Since parenthetical material is not part of the main content, its occurrence does not modify the truth value: the two first examples in (9) are equivalent, while the occurrence of the modal (*perhaps*) changes it. Similarly, it cannot be objected to by a participant in a dialogue by the usual means (with ‘no’, ‘it’s false’), and speakers must resort to metalinguistic expressions (Jayez and Rossari 2004, Potts 2005).

- (9) a. Si Paul arrive en retard, Marie sera furieuse.
If Paul arrives late, Marie will be furious
- b. Si Paul arrive en retard, Marie sera malheureusement furieuse.
- c. Si Paul arrive en retard, Marie sera peut-être furieuse.
- (10) a. A Paul a malheureusement perdu l’élection.
Paul has unfortunately lost the election
- b. B1 #C’est faux, je trouve que c’est une bonne nouvelle.
It is false, I find that it is good news
- c. B2 C’est vrai, mais moi, je trouve que c’est une bonne nouvelle.
It is true, but for my part, I find that it is good news.

We develop a dialogical approach, relying on a slightly revised version of Ginzburg’s dialogue gameboard (DGB) (2007), which has (at least) the four following features: QUD (questions under discussion), the common ground (CG), the participant’s commitments (CMT) and the L(atest)-MOVE, a representation of the preceding dialogue move. When asserting a proposition, a speaker puts it in his set of CMT, and in the list of QUD (to be accepted or rejected by the other participants). On the other hand, parentheticals (e.g. an evaluative adverb like *malheureusement*) are not part of the QUD, but only of the CMT.

- a. Participant A’s update when asserting p :

$$\left[\begin{array}{l} \text{CMT} \\ \text{CG} \\ \text{QUD} \end{array} \left[\begin{array}{l} \boxed{C} \\ \boxed{G} \\ \boxed{Q} \end{array} \right] \right] \left[\begin{array}{l} \text{CMT} \\ \text{CG} \\ \text{QUD} \end{array} \left[\begin{array}{l} \{p\} \cup \boxed{C} \\ \boxed{G} \\ \langle p? \rangle \oplus \boxed{Q} \end{array} \right] \right]$$

b. Participant's gameboard when uttering *eval p*:

$$\left[\begin{array}{l} \text{CMT} \quad \boxed{C} \\ \text{CG} \quad \boxed{G} \\ \text{QUD} \quad \boxed{Q} \end{array} \right] \left[\begin{array}{l} \text{CMT} \quad \{p, \mathbf{eval}(p)\} \cup \boxed{C} \\ \text{CG} \quad \boxed{G} \\ \text{QUD} \quad \langle p? \rangle \oplus \boxed{Q} \end{array} \right]$$

The DGB is part of the feature CONTEXT. Commitments, in particular, are simply inherited from all the branches by a phrase, and gathered as the value of CONTEXT at the highest level for the utterance (that is, the assertion if it is a declarative clause). The semantic contribution of parentheticals is put directly in the CMT, and is not mentioned in the content.

In spite of not being part of the main content, parentheticals participate in the scope relations in the sentence. Thus, a sentence like *Heureusement, la plupart des étudiants sont venus* (Fortunately, most students came) has two readings depending on whether the adverb or the nominal quantifier has higher scope. In one case, the quantifier is scoped by the verb, and the content of the adjunct is simply identified with that of the verb (or the clause); this gives narrow scope to the quantifier. In the other, the quantifier is scoped by the adjunct, and has wide scope.

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