

Evidentiality, Part I

By Johan Rooryck

1. Introduction

Writing an overview article on research about evidentiality in generative grammar involves a double paradox. First of all, admittedly little research has explicitly focused on evidentiality from a generative perspective. Therefore, a state of the article might appear unnecessary, even excessive, as most research on this subject is nongenerative in nature. The second paradox is more interesting. I would like to show that several lines of research have developed in generative grammar which, mostly unwittingly, involve issues bearing on evidentiality. More in particular, I will argue that research issues such as complementizers, parentheticals (*Sally is smart, I think*), and inversion structures in DP (*that idiot of a Paul*) are to be understood in the light of evidentiality. In that sense, this state of the article will put the import of some of that research in a quite different perspective, almost turning it into a research project. In addition, I will briefly summarize the syntactic and semantic research that has explicitly dealt with evidentiality in the last few years within the generative tradition.

2. Definitions

The best introduction to the issue of evidentiality still remains Chafe & Nichols' (1986) seminal volume. Its articles give an unparalleled overview of the descriptive variety and theoretical issues at hand. Evidential markers are defined as grammatical categories which indicate how and to what extent speakers stand for the truth of the statements they make. Evidentials illustrate the type of justification for a claim that is available to the person making that claim. In Chafe & Nichols' (1986) terms, they represent a 'natural epistemology'.

Evidentials indicate both *source* and *reliability* of the information. They put in perspective or evaluate the truth value of a sentence both with respect to the source of the information contained in the sentence, and with respect to the degree to which this truth can be verified or justified. This justification can be expressed by markers referring to immediate evidence on the basis of visual observation, to inference on the basis of (non)observable facts, to deduction or inference, etc.

Johan Rooryck, Department of French, Leiden University,
P.O. Box 9515, 2300 RA Leiden, The Netherlands,
j.e.c.v.rooryck@let.leidenuniv.nl

Evidentials are often distinguished from two other, closely related, categories: a subset of modals, more in particular subjective epistemic modals (*It must be raining in Brussels right now*) on the one hand, and evaluative markers on the other. The category of evaluatives includes surprisals (in Albanian, Korean, Menomini, Brazilian Arawakan), and morphemes expressing (dis)approval (in Ngiyambaa (Austronesian) and Akha (Tibeto-Burman); see Palmer, 1986 and Cinque, 1999 for references). Although this is not entirely uncontroversial, I will treat evaluatives and subjective epistemic modals on a par with evidentials. Evidentials, epistemic modals, and evaluatives all relativize or measure the information status of the sentence. The term 'information status', is intended to include both the truth value of a sentence and the relative importance accorded to it. Evidentials, epistemic modals, and evaluatives share two essential properties. First and most importantly, a *source* of evaluation or reliability of the sentence is involved. This 'source of information' defines who stands for the information status of the sentence. Secondly, the information status of the sentence is most often *measured* on a scale whose *type* varies: the sentence is measured with respect to reliability, probability, expectation, or desirability. The combination of the notions 'source of information' and 'evidence/evaluation type' distinguish evidentials, epistemic modals, and evaluatives from other functional categories. I will show later in the discussion on parentheticals that evidentials and evaluatives share configurational properties as well.

Evidentials most often derive via a grammaticalization process from either perception verbs and verbs of saying or personal pronouns (Botne, 1995).

Johan Rooryck's State-of-the-Article on Evidentiality appears in two installments. Here is the complete table of contents of both Part I and Part II.

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Most researchers note that they are mostly a property of oral languages and that evidential markers tend to disappear once the language acquires a written form. This might be related to the fact that the written record takes over the function of source and reliability of information.

To get a feel for the kind of data involved, consider Schlichter's (1986) data from Wintu (Northern California):

-nthEr: nonvisual sensorial (grammaticalized from verb *mut-* 'hear, feel, perceive, sense'):

- (1) Q'otisa-bint^heresken
strong impf you
'You're strong (I feel)' (Said while wrestling)

-ke: hearsay (related to 'potentially, maybe')

- (2) Minel kirke-m
die completive.dubitative.3p
'He has died (I'm told)'

-re: visual deduction/inference (grammaticalized from verb 'see, look'):

- (3) Niçay ?ewin sukere.
nephew here stand
'My nephew must have been here (I see tracks)'

- ?el: expectational (speaker believes proposition to be true on basis of previous similar, experience, or experiences regularly occurring in human life, also hearsay, grammaticalized from a verb meaning 'to exist'):

- (4) Tima mine?el pira?el
cold die starve
'He might freeze to death'
He is expected to freeze to death
?Imto-n nuqa?el
berries ripe
The berries must be ripe (it's that time of year)
'The berries are supposed to be ripe'

The above set of examples from Wintu illustrate how difficult it is to define the exact meaning of evidential markers. This has led to a proliferation of partly overlapping terms in the typological literature, which makes it difficult to compare evidentials crosslinguistically, let alone to set up a universal typology. Some examples of terms in use may illustrate this point. Jakobson (1957) defines four

sources of evidential information: quotative (hearsay evidence), revelative (dream), a guess (presumptive), and previous experience (memory). For Carib, Hoff (1991) distinguishes introspective evidentials (knowledge through inference) from extraspective evidentials (culturally available knowledge). Palmer (1986) observes that there are at least four ways of presenting a statement or a fact: speculative, deductive, hearsay, appearance based on sensory evidence. Barnes (1984) distinguishes the categories visual, nonvisual (sensory), apparent, secondhand, and assumed. Anderson (1986) attempts to build a complete 'map of mental space' for evidential meanings, see Table 1.

This state of affairs suggests that more work of a theoretical nature is needed if insight is to be gained in the relations between these various types of evidentiality.

As we have noted above, 'source of information' and 'evidence type' seem to be essential ingredients for evidentials. The notion 'source of information' can be analyzed further. Either it involves the speaker or it does not. As such, it refers to the grammatical category person (1st, 2nd and 3rd). The 'evidence type' refers to the ways in which information is measured: reliability (personal observation, inference, common knowledge, hearsay), probability, desirability etc. The necessary combination of both notions in evidentials explains why evidential markers so often originate in verbs of saying and perception: the verb meaning contributes the 'evidence type' and the verb's external argument provides the 'source of information'. Importantly, some basic generalizations can be drawn from the interaction between these notions. 'Source of information' and 'evidence type' seem to combine in limited ways. If the 'source of information' is 1st person, the 'evidence type' can be visual, intuitional, or inferential but not, for example, hearsay or quotative, whose source is inherently 3rd person. Surprisals necessarily involve a 1st person, nonsurprisals ('it is expected that') do not. These generalizations in turn explain why pronominal elements can occur as evidential markers in and by themselves: the range of 'evidence types' that go with specific pronominals (1st, 2nd and 3rd) will be

Table 1: a slightly simplified version of Anderson's (1986, 284) map of mental space.

Certainty/strong probability 'must'	Logical inferential 'must'	Circumstantial inferential 'it seems'	Surprisals (unprepared mind)	Visual
Prediction/regularity		Common knowledge		Uncertain visual 'appear'
Expectation 'supposed to' 'ought to'	Reputation 'is said to' quotative	Hearsay 'they say'	Intuition 'I feel'	Nonvisual sensory 'taste, smell'
Possibility 'can/may'		Conjecture 'maybe'		Auditory evidential

inherently limited. Botne's (1995) work on pronominal evidentials in Lega (Bantu, Eastern Congo) is a case in point. He argues that the evidential marker for hearsay *ámbo* in (5) derives diachronically from the third person plural pronoun.

- (5)
ámbo Amisi ézi nzela (Botne, 1995, 202(1b))
 Ev. Amisi 3S-know path
 [They say/I hear tell (that)] Amisi knows the way'

In view of such facts, it seems that so-called 'ethical datives' should be analyzed on a par with 'pronominal-based' evidentials. Ethical datives, typical of spoken language as all evidentials, can have a variety of closely related evaluative and evidential meanings, some of which are illustrated here for French (examples are from Grevisse, 1980, §1063):

- (6)
 a. Et elle *vous* lui détacha un coup de sabot si terrible, si terrible, que de Pampérigouste même on en vit la fumée (Daudet, *Lett. de m. moul.* 93) And (*I tell ya*), she gave him such a terrible kick with her hoofs that the smoke could be seen as far as Pampérigouste.
 b. Tu *m'*as l'air triste aujourd'hui (*In my opinion/from my perspective*, you look sad today)

I will not go into these facts any further. Note that the notion of 'source of information' is closely linked, if not identical, to that of 'speaker perspective' and 'point of view', which are often argued to play a role in other areas of the grammar, from long distance binding and logophoricity (see the articles in Koster & Reuland, 1991) to switch reference (Stirling, 1993).

3. Configurational aspects of evidentiality

It has often been observed that evidential morphemes expressed on the verb in languages such as Wintu, are expressed in other languages by adverbs of the type *visibly, apparently, clearly, reportedly, allegedly, obviously* (Chafe & Nichols, 1986; den Dale & Tasmowski, 1994). Cinque (1999) has been the first to couch this insight in configurational terms: languages such as Wintu express evidential morphemes as functional heads of a projection EvP, while languages like English generally leave this position empty and exploit SpecEvP to license adverbs (and adverbial PPs) expressing evidentiality.

- (7) a. Minel kirke:m Wintu
 die completive.dubitative.3p
 'He has died (I'm told)'
 b. [EvP — [Ev° -ke] (...) [IP [VP Minel]]]
 (8) a. reportedly, he died English:
 b. [EvP reportedly [Ev° Ø] (...) [IP he died [VP]]]

For Cinque, evidentials form part of the left periphery in his universal hierarchy of adverbial functional positions, which can partly be represented as follows (Cinque, 1999, Chapter 4):

- (9) [*frankly* Mood_{speech act} [*fortunately* Mood_{evaluative} [*allegedly* Mood_{evidential} [*probably* Mod_{epistemic} [*once* T_(past) [*then* T_(fut) (...)]

This ordering is argued for on the basis of the relative ordering of speech act, evaluative, evidential, and epistemic adverbs and/or functional heads. In Korean, the morpheme for speech act is the last one to attach to the verb after the evaluative and epistemic morphemes respectively (Cinque, 1999, §4.6):

- (10)
 Ku say-ka cwuk-ess-keyss-kwun-a Korean
 that bird-NOM die-PAST-EPIST-EVAL-DECL
 'That bird must have died'

This suggests that the verb moves successively through the heads of Mod_{epistemic}, Mood_{evaluative} and Mood_{speech act}, picking up each morpheme in turn. Evaluative adverbs are ordered higher than evidential adverbs, on the basis of contrasts as in (11) (Cinque, 1999, §1.3)

- (11) a. Happily Max has evidently been trying to climb the walls
 b. *Evidently Max has happily been trying to climb the walls

Note that this analysis leads to an interesting, if rather odd, correlation. It was noted above that evidential morphemes tend to disappear once a language acquires a written form. Evidential adverbs however seem to be insensitive to a spoken/written distinction. The interesting question thus arises why only evidential heads should be sensitive to such a distinction. I will come back to this correlation in the next sections.

From a theoretical point of view, the question arises whether functional heads and adverbs exhaust the set of possibilities through which evidentiality can be expressed in language. I would like to claim that this restrictive view can indeed be maintained. In the next section, I will argue that parentheticals express evidential meanings through a particular syntactic structure involving Cinque's functional hierarchy for adverbs. I will review some of the proposals that have been put forward in the literature to deal with their syntactic structure, and make some suggestions of my own.

4. Parentheticals as evidential markers

4.1. Properties of parentheticals

A striking property of parentheticals lies in the fact that they express a large range of evidential meanings, as illustrated in (12):

- (12)
 Jules is back,
 I feel/I sense (nonvisual sensorial)
 I see (sensory inferential, visual deduction)
 I hear/they say/ (sensory evidence, hearsay)
 (so) I'm told

Sarah said	(quotative)
I realize/I found out	(memory/circumstantial inferential)
it seems/it appears	(unspecified source, circumstantial inferential)
it turns out	
I believe/think/ guess	(speculative)
suppose/presume/	
suspect/assume/	
take it/gather	
I'm afraid/I'm sorry	(surprisal: to attenuate hearer's surprise)
to say	
I'm sorry/happy to	(evaluative: (dis)approval)
say/tell you	
can you imagine!	(surprisal/admirative)
(you) understand?	(current relevance)
you know?	
I tell you/I swear	(personal responsibility for assertion/witness report)
I admit/confess	(concessive)

Urmson (1952, 484) states: "By them [parenthetical verbs] we prime the reader to see the emotional significance, the logical relevance, and the reliability of our statements." This statement comes very close to a definition of evidentiality.

The use of the verb in a parenthetical sentence changes its meaning in predictable ways. In general, the meaning of the verb is impoverished, or 'de-intensified', in Bresnan's (1968, 22) terms. In (12), *be afraid* does not express the fright of the speaker, but an attenuation of the assertion, "a reluctant statement of probable fact, not a revelation of emotion" (Bresnan, 1968, 14, see also Urmson, 1952, 486). The parenthetical *they say* can be uttered in a context where the information *Jules is ill* was obtained just by reading the tabloids, without anyone actually 'saying' anything. The parenthetical *I tell you* is entirely pleonastic and violates Gricean maxims if it were to refer to the actual utterance of the speaker. Similarly, *can you imagine!* does not constitute a real question as to the powers of imagination of the addressee. Benveniste (1966, 264) notes that if a sentence is followed by *je suppose, je présume*: "il y a une attitude indiquée, non une opération décrite." (it refers to an attitude assumed, not an operation performed). Vet (1994) observes that in the parenthetical *je crois* 'I think', there is no conviction expressed, but a reservation limiting the assertion to the opinion of the speaker. Urmson (1952, 482) already noted that parenthetical verbs as a class "are not psychological descriptions".

These changes in meaning are verifiable: modification of the parenthetical with adverbs requiring the original meaning of the verb is impossible:

- (13) a. Jules is back, I'm (*really) afraid.
b. Jules is back, I (*firmly) believe

In parentheticals, verbs undergo a change of meaning towards a purely evidential or evaluative meaning. This change in meaning synchronically reflects the diachronic grammaticalization path of evidential morphemes: as noted above, evidential morphemes

tend to derive diachronically from verbs expressing perception or assertion (Chafe & Nichols, 1986), or from 1st or 2nd person pronouns (Botne, 1995).

A similar restriction can be noted for the 'source of information', represented by one of the arguments of the verb. Changing the subject of a parenthetical can make the sentence ungrammatical as in (14a), it can entail a change of evidential meaning as in (14b–d), or it can add another property to the evidential meaning as in (15b–d):

(14)

- a. Jules is back, you know/*I know/*he knows
b. Jules is back, I see (visual or inferential deduction)
c. Jules is back, you see (discourse relevance)
d. Jules is back, I'd say (personal responsibility)
e. Jules is back, they say (hearsay)

(15)

- a. Jules is back, I think (speculative)
b. Jules is back, you think? (speculative + question)
c. Jules is back, I imagine/figure? (speculative + question)
d. Jules is back, can you imagine!/? (surprise + question)
go figure

Parentheticals can express evidential meanings by multiple embedding. These meanings can be simplex as in (16a) and complex as in (16b).

(16)

- a. Jules is back, I'm sorry to say/*I say that I'm sorry/*they say I'm sorry (surprisal)
b. Jules is back I believe they say/*they say I believe (inferential + hearsay)

These examples also show that the order of embedding is not free, and subject to more severe restrictions than the corresponding matrix sentences would exhibit:

(17)

- a. I'm sorry to say/I say that I'm sorry/they say I'm sorry that Jules is back
b. I believe they say/they say I believe that Jules is back

Similar observations on the interpretive restrictions of parentheticals have been made by Reinhart (1983). She draws a distinction between speaker-oriented and subject-oriented parentheticals:

(18)

- a. He_i would be late, Jules_i said (subject oriented)
b. Jules_i will be late, he_i said (speaker oriented)

Reinhart (1983, 175) observes that the parenthetical in (18b) involves hearsay or inference from what Jules said, and is similar to *I think* or *probably*. The parenthetical in (18a), by contrast, refers to direct speech by Jules: it involves a 3rd person *he* as a proxy for a 1st person (known in stylistics as 'Free Indirect Speech'). Note that both cases refer to evidential categories: the parenthetical in (18a) works like a quotative, that in (18b) involves an inferential or hearsay.

In addition to these changes in verb meaning and in the status of the subject of the parenthetical as 'source of information', parentheticals display tense restrictions. These restrictions are not identical for all parentheticals, as illustrated in (19):

(19)

- a. Jules is back, I see/I saw/ (inferential)
*I have seen/ *I will see/
- b. Jules is back, I'm / *I was / (surprisal)
*I have been/ *I will be afraid
- c. Jules is back, they say/they said/(hearsay)
they've said/??they will say
- d. Jules is back, I hear/ I heard/ (hearsay)
I've heard/??I will hear

These systematic changes and restrictions suggest that the processes involved in parentheticals are too productive to be analysed as grammaticalized, 'fixed' structures, or 'collocations'. A properly syntactic analysis of parentheticals raises at least the following questions (see also Corver, 1994). For ease of exposition, we would like to define the 'parenthetical' as the clause contributing the evidential meaning, and, paraphrasing Bresnan (1968), the 'sentential' as the clause that is modified by the parenthetical:

(20)

- a. What is the nature of the relation between the parenthetical and the sentential?
- b. What accounts for the rather free placement of parentheticals in sententials?
cf. *Jules (I see) is (I see) lying (I see) on the couch, (I see)*
- c. Why and how are parentheticals semantically impoverished or 'de-intensified'?

4.2. Syntactic analyses of parentheticals

4.2.1. Parentheticals: matrix verbs or adverbials?

Parentheticals basically have been given two analyses in the literature, which I will call the complementation analysis and the adverbial analysis. Ross (1973) was the first to propose that the underlying structure of (19a) is one in which the parenthetical *I see* takes the sentential *Jules is back* as its complement. A transformation called S(entence)lifting then preposes the complement clause to obtain the surface order of (19a) (see also Hooper, 1975). The operation Nicheing optionally moves the parenthetical leftward into the fronted complement clause. Bresnan (1968) and Jackendoff (1972) suggested an alternative analysis in which the parenthetical is generated as a sentence adverbial. An important argument for this position is that parentheticals and semantically identical adverbials occur in the same positions with respect to the sentential:

(21)

- a. (I admit,) he has (I admit) strong qualifications
(, I admit)

- b. (Admittedly,) he has (admittedly) strong qualifications (, admittedly)
- c. (Reportedly,) Dubya (reportedly) bombed Bagdad (, reportedly)
- d. (They say) Dubya (, they say,) bombed Bagdad (, they say)

A disadvantage of this analysis is that it is much harder to account for the gap in the complement position of the verb in the parenthetical.

Reinhart (1983) argues that speaker-oriented parentheticals should receive an adverbial analysis, while subject-oriented parentheticals derive from a modified version of Ross's slifting. Emonds (1976, 1979) argues that parentheticals are generated at the end of the sentential. Parts of the sentential are subsequently moved to a position after the parenthetical. For McCawley (1982), parentheticals are the result of a rule that changes word order without affecting constituent structure. It is important to note that Emonds and McCawley include expressions such as *of course*, or coordinations as in *Dick – and I must insist on this – never was a crook* into the set of parentheticals. The definition of parenthetical used in this article is admittedly somewhat narrower.

More recently, Corver (1994) observes that Reinhart's (1983) subject-oriented and speaker-oriented parentheticals display unbounded relations, obey island effects, and license parasitic gaps:

(22)

- a. That picture of herself_i was quite bad, I believe (*the rumor) that Jules_i said after having denied — for a long time. (*subject-oriented: quotative*)
- b. Jules_i is a jazzlover, I believe (*the rumor that) she_i once said after having denied — for a long time. (*speaker-oriented: inferential/hearsay*)

However, subject-oriented and speaker-oriented parentheticals behave differently with respect to e.g. principle C effects, reflexive or variable binding, and *or so* insertion (Reinhart, 1983; Corver, 1994). Note that in (23b, c), the presence of the adjunct introduced by *although* ensures the speaker-oriented reading (cf. Reinhart, 1983, 182fn6).

(23) (*subject-oriented, quotative*)

- a. *The idiot_i was ill, Jules_i said
- b. That picture of herself_i was bad, Jules_i said
- c. They_i would be fired, everyone_i said
- d. She_i would be late, (*or so) Jules_i said

(24) (*speaker-oriented, inferential/hearsay*)

- a. Jules_i was ill, the idiot_i said
- b. *That picture of herself_i was bad, Jules_i said, although it wasn't
- c. *They_i would be fired, everyone_i said, although they wouldn't be
- d. Jules_i would be late, (or so) she_i said

Reinterpreting a suggestion of Reinhart (1983, 185), Corver (1994) proposes a radically different derivation for subject-oriented and speaker-oriented parentheticals. Subject-oriented parentheticals as in (18a)

embed the sentential which is subsequently A'-moved. Speaker-oriented parentheticals are in a coordinate-like relation with the sentential (*pace* Bresnan's 1968, 10 arguments against a coordination analysis for parentheticals). The verb of the parenthetical embeds an empty *pro* which is coreferential with the sentential:

- (25) [_{conjP} Jules said _{pro}_i [_{conj'} [he would be late]_i]]

However, it is not clear that such a radical conclusion is warranted. Simple embedded contexts as in (26) also show variation with respect to Principle C and *or so* insertion:

- (26)
- Jules_i *(probably) thinks that the idiot_i should be rewarded (although of course he won't be)
 - Jules_i (probably/*literally) said that the bastard_i didn't have a clue (although he_i sure as hell did)
 - Jules_i (probably/*literally) said he_i would be late or so

This variation seems to be likewise triggered as a function of the speaker perspective adopted in the matrix clause (see Pica & Rooryck, 1999 for similar cases). The addition of *probably* allows for an interpretation of 'attributed belief/speech act' by the speaker which is similar to the attribution of a speech act by the speaker in the speaker-oriented readings of parentheticals. Note that the positions of name and epithet are different in (24a) and (26) if we allow the sentential to reconstruct in the complement position of *say*. Nevertheless, the generalization still is that contexts of 'attributed belief or speech act', in evidential terms inferential or hearsay, redefine relations between names and epithets in both embedded and parenthetical configurations. In this context, it is worthwhile to point out that epithets themselves are sensitive to evidential information, as they imply an evaluation by the 'belief attributing' speaker both in (26a) and in (24a).

That specifically Binding relations should be subject to variation in speaker-oriented and subject-oriented context is not surprising in itself. The status of a clause as a direct, an indirect, or a free indirect speech complement is well known to have implications for the Binding relations between matrix and embedded clause (Banfield, 1973, 1981; Schlenker, 2000):

- (27) a. She_i said that she_{i/j} would come (IS)
 b. She_i said: 'I_i/*she_i will come' (DS)
 c. She_{i/j} would come, she_i said (FIS)

Turning our attention again to parentheticals proper, Collins & Branigan (1997) and Collins (1998) suggest that the relations between the parenthetical and the sentential should be viewed in terms of control: the parenthetical contains an empty operator controlled by the sentential. The empty operator triggers inversion in the parenthetical in a manner parallel to French stylistic inversion.

- (28) [_{CP} Jules is back]_i [_{CP} O_i [_{TP} said [_{TP} Mary [_{VP} t_{Mary} t_{said} t_O]]]]

Note that this proposal abandons the idea that the sentential is at some level the actual complement of the parenthetical. In effect, it is most compatible with an adverbial analysis for the parenthetical.

4.2.2. The distribution of parentheticals

In this context, it is worthwhile to point out that both the complementation analysis and the adverbial account run into problems with respect to the rather free distribution of parentheticals [question (20b)]. The complementation analysis can easily account for the sentence-final position of the parenthetical, but the other positions of the parenthetical inside the sentential are rather difficult to derive via syntactic movement, unless massive remnant-movement-cum-deletion is marshaled. The adverbial analysis runs into problems once it is recognized that the free distribution of parentheticals isn't so free after all. Admittedly, parentheticals and evidential adverbials can occur in the same positions in matrix clauses as in (21). However, parentheticals cannot modify an embedded clause, while evidential adverbials can, as the contrasts in (29) show:

- (29)
- Sarah told me that (she_i admitted,) Jan has (*she_i admitted) strong qualifications (, *she_i admitted)
 - Sarah told me that (admittedly,) Jan has (admittedly) strong qualifications (, admittedly)
 - Jules told me that (reportedly,) Dubya (reportedly) bombed Bagdad (, reportedly)
 - Jules told me that (they say) Dubya (, *they say,) bombed Bagdad (, *they say)

Within the adverbial analysis, it is hard to explain why semantically identical adverbs cannot occur in the same positions in embedded clauses. By contrast, the complementation analysis can account for such facts by assuming that movement of the sentential to a position in the CP domain of the embedding parenthetical is impossible when the parenthetical is itself embedded. In other words, fronting of the sentential is a root operation.

Corver (1994) proposes that the distribution of parentheticals is assured through cross-categorical phrasal attachment. Corver's (1994) proposal is based on the observation that parentheticals can occur inside DPs as in (30):

- (30)
- Jan is [(ik geloof) naar (geloof ik) Tilburg (geloof ik)] vertrokken
 'Jan left [(I think) to (I think) Tilburg (I think)]'
 - Jan is [(ik geloof) gisteren (geloof ik)] vertrokken
 'Jan left [(I think) yesterday (I think)]'
 - Sarah nam [leen (, dacht ik,) enigszins vreemde beslissing]
 'Sarah took an, I thought, rather strange decision'

The problem with an analysis in terms of multiple attachment is that it vastly overgenerates. Only a

small subset of parentheticals can occur as freely as in (30). The sentence (31b), which is semantically minimally different from (30b), is ungrammatical.

(31)

- a. Jan is [(neem ik aan) naar (neem ik aan) Tilburg (neem ik aan)] vertrokken
'Jan left [(I take it) to (I take it) Tilburg (I take it)]'
b. Sarah nam [een (*, leek mij,) enigszins vreemde beslissing]
'Sarah took an, it seemed to me, rather strange decision'

This may indicate that the parentheticals occurring inside DPs are on their way to being grammaticalized as nominal modifiers. Note that adjectives with evidential import do occur inside DP as in *an apparent/alleged/supposed/reported/so-called genius* (cf. Izvorski, 1997). More recalcitrant cases for a grammaticalization analysis of parentheticals inside DPs come from cases involving coordination as in (32), where any parenthetical can occur after the conjunction, in the manner of other discourse markers such as *moreover*:

- (32) A difficult, and, I'm afraid/I think/they say/it seems/moreover, rather unpopular decision

Once again, such cases show that the distribution of parentheticals is subject to poorly understood conditions which should be taken up in further research.

4.2.3. The 'de-intensification' of parentheticals

The last question regarding parentheticals, namely why and how they are semantically impoverished or 'de-intensified' (20c), has received relatively little attention in the literature, despite Bresnan's (1968) early and perspicuous observations. From the point of view of evidentiality, the why of the 'de-intensification' is clear: the verb is semantically impoverished in such a way that only its evidential meaning remains. Similar processes of semantic 'bleaching' are well known from the literature on grammaticalization (Bybee *et al.*, 1994). The problem with parentheticals is that their process of 'bleaching' needs to be analysed as a synchronically active one.

Making use of Cinque's (1999) proposals regarding the universal hierarchy of adverbial positions, I would like to suggest an analysis which combines the complementation and the adverbial analysis. Fronting of the sentential involves overt or covert movement to the Specifier of the adverbial position Mood_{evidential}P. The matrix verb moves from its base position via all intermediate functional projections (e.g. TP) to the head of the adverbial Mood_{evidential}P. Subject inversion occurs when verb movement takes place overtly, otherwise verb movement is covert.

(33)

- a. [_{MoodEvidP} [_{CP} Jules is back] [_{MoodEv°} think]
[_{TP} I [_{T°} think] [_{VP} I think CP]]]
b. [_{MoodEvidP} [_{CP} Jules is back] [_{MoodEv°} said]
[_{TP} she [_{T°} said] [_{VP} she said CP]]]

Verb movement to the head of Mood_{evidential}P gives the matrix verb its adverbial meaning and evidential function. Only those semantic features of the verb are preserved that are compatible with the range of evidential interpretations Mood_{evidential}P affords. This is why further modification of the verb in the parenthetical must be compatible with the evidential interpretation obtained (cf. (13), (19)). Note that the impossibility of parentheticals in embedded contexts (cf. 29) can now be attributed to the exclusion of (c)overt inversion in embedded contexts. Importantly, the evidential nature of parentheticals can be entirely reduced to the functional configurations proposed by Cinque (1999) for evidential heads and adverbs.

Note that this analysis confirms the correlation noted above (§ 3) between evidential morphemes and spoken language. Parentheticals clearly are a property of spoken language, and involve an evidential head. The question why evidential adverbs are insensitive to a spoken/written distinction, and why the correlation holds at all, remains open.

Postma (1999) observes that in Dutch, verbs expressing bodily movement can receive an interpretation as an quotative verb when used in a parenthetical. These verbs do not select direct or indirect speech complements.

(34)

- a. "Ik heb het helemaal alleen gedaan", glom/
straalde/bloosde/proestte/knorde ze
'I have done it entirely myself', shined/radiated/
blushed/blurled/grunted she'
b. "Ik zou dat nooit doen", beefde/trilde/knipoogde ze
'I would never do that', trembled/shaked/
winked she'

(35)

- a. *Ze glom/straalde/trilde/knipoogde: "Ik heb het helemaal alleen gedaan",
'She shone/radiated/shaked/winked: "I have done it entirely myself",
b. *Ze glom/straalde/trilde/knipoogde dat ze het helemaal alleen gedaan had.
'She shone/radiated/shaked/winked that she had done it entirely herself.'

Note that the same construction exists in other languages for verbs such as Spanish *saltar* 'jump' and French *faire* 'make (a gesture)'. Postma (1999) proposes that this SAY-reading is not imposed by the lexicon through the verb's subcategorization frame, but that it is instead created syntactically by the inversion operation in the parenthetical. He assumes that verb meaning can come about in two ways: either by projecting the verb's theta-grid directly in the syntax, or by a compositional process at LF. The latter mechanism is at work in deriving the SAY-reading of bodily movement verbs in parentheticals: Postma assumes that a lexical verb such as *bibberen* 'tremble' moving to C° in the parenthetical is prevented from projecting its lexical theta-grid. Therefore, the

compositional mechanism is activated and assigns a SAY-meaning to these verbs.

This analysis can be partly reinterpreted in the light of the derivation proposed in (33). Disregarding tense effects discussed by Postma (1999) (cf. also (19) above), the main difference between bodily movement verbs in (34) and verbs of saying and thinking occurring in parentheticals is that the latter are semantically 'de-intensified' while the former receive a SAY-meaning that is superimposed on their original semantics (see also Sybesma, 1992, 1999 for other cases in which functional meaning is superimposed on the lexical meaning of an element).

This situation can be attributed to a number of factors. First of all, the fact that verbs of saying and thinking are only 'de-intensified' seems to be a consequence of the fact that their semantics is already much closer to the range of evidential meanings associated with adverbial Mood_{evidential}^P to begin with. It can still be maintained that movement of all verbs to Mood_{evidential}^o is what makes these verbs function with a purely evidential meaning, 'de-intensifying' their original semantics. The fact that the 'de-intensification' of the original lexical semantics seems more radical in some cases is just a factor of how close this lexical meaning is to the eventual evidential meaning.

I would like to claim that movement into the adverbial Mood_{evidential}^o of any verb is a process by which aspects of the verb's meaning are 'adverbialized'. It is this process of 'adverbialisation' that is responsible for 'de-intensification'. More in particular, the sentence (35a) can be paraphrased as (36b):

- (36) a. Jules is back, I think
b. The information content 'Jules is back' is evidentially restricted by some form of thinking on my behalf

In the paraphrase (36b), information content, evidential restriction, and manner adverbial PP correspond to the sentential, the evidential head, and the verb moving into this head respectively. By moving into an adverbial head, the parenthetical verb effectively becomes an adverb to the evidential head. In other words, it is claimed that the configuration in (33) compositionally derives the 'de-intensified' meaning of the parenthetical. More in particular, it is the 'manner' component of the adverbial which takes care of the elimination of the non-evidential aspects in the lexical semantics of the verb *think*. The evidential type in Mood_{evidential}^o must be semantically 'matched' by the manner 'adverbialized' head *think*.

The interesting aspect of this analysis is that it can be applied to Postma's (1999) cases where a SAY-meaning is superimposed on verbs of bodily movement. Note that Cinque (1999) assumes that the 'default' interpretation of Mood_{evidential}^P involves a SAY-meaning: the speaker (source of information) assumes responsibility (evidence type) for a sentence uttered. It is certainly not an accident that it is this 'default' SAY-meaning that is triggered in

Mood_{evidential}^o when a verb without inherent epistemic meaning is moved into it. In our terms, this would mean that there can be no semantic 'matching' between the evidential restriction in Mood_{evidential}^o and the verb of bodily movement which is 'adverbialized'. This lack of semantic matching triggers the 'default' SAY-meaning on Mood_{evidential}^o, and the verb of bodily movement is 'adverbialized' while retaining its original semantics. As a result, the compositional semantics of a sentence such as (37a) can be paraphrased as (37b). Note however that this paraphrase simply is a reflection of a purely syntactic process of verb movement into an adverbial head which 'adverbializes' the parenthetical verb.

- (37) a. 'Jules is terug', bibberde Jan
'Jules is back' trembled Jan
b. The information content 'Jules is back' is stated by Jan by/while trembling

One problem remains, however. The derivation in (33) presupposes that bodily movement verbs take the sentential as their direct speech complement at the start of the derivation. That seems counterintuitive, as these verbs are lexically intransitive and cannot attribute a theta-role to the sentential complement.

4.2.4. Evidentiality and raising verbs

To conclude this section on the configurational aspects of evidentiality, I would like to point out that parentheticals are not the only case in which evidentiality is expressed through a particular syntactic structure. Raising verbs such as *seem* or *appear* clearly have an inferential meaning. In a number of languages, certain verbs only behave as raising verbs if they are passivized:

- (38) Brutus mihi videtur venisse (Latin; inferential)
Brutus to-me see-PASS to-have-come
'Brutus seems to have come'
- (39) a. Jan werd geacht/verondersteld (Dutch; expectational)
te komen
Jean était censé/supposé venir (French; expectational)
'Jules was supposed to come'
b. *Ik achtte/veronderstelde Jan te komen (Dutch)
J'ai censé/supposé Jean venir (French)
'I supposed Jules to come'
- (40) a. Jules was said/rumored
to be a crook (English; hearsay)
b. *I said/rumored Jules
to be crook

In Latin, passive *videre* 'see' is used to express English *seem*, and in Dutch and French only the passivized forms of certain verbs expressing belief syntactically display raising behavior, while having a meaning close to modal raising verbs such as epistemic *devoir* 'must/should'. In all of these cases, the verbs restrict or 'de-intensify' their original meaning to some extent, in the same way as in parentheticals. This is most clear for Latin *videre* 'see' which is restricted to nonvisual perception/deduction. The Dutch and

French expectational raising verbs in (39), and the English hearsay raising verbs in (40) cannot be accompanied by an overt *by*-phrase. In addition to these, there are raising verbs with evaluative import which are clearly related to ditransitive verbs. Ruwet (1972) already observed that French *promettre* 'promise' and *menacer* 'threaten' lose their Goal thematic role when used as raising verbs.

- (41) Il promet/menace de (French)
 pleuvoir bientôt
 Het belooft/dreigt te (Dutch)
 gaan regenen
 'It promises/threatens (future + positive/
 to rain' negative evaluation)

They acquire a meaning that is a combination of future tense and a positive or negative evaluation that is very close to the 'good job/bad job' evaluative morphemes expressing (dis)approval in Ngiyambaa (Austronesian, cf. Donaldson, 1980). This shows that the thematic structure of these verbs is affected when they function in raising contexts with evidential import.

With respect to their syntactic derivation, it is very tempting to say that these verbs either covertly raise to Mood_{evidential}^o (or enter an Agree relation with it), 'de-intensifying' their meaning in the same manner as parenthetical verbs in (30).

- (42) [_{MoodEvidP} Jules [_{MoodEv^o} was ~~rumored~~]] [_{TP} Jules
~~was~~ [_{VP} rumored [_{TP} Jules to be a crook]]]

The only difference with parenthetical then resides in the element moving to Spec Mood_{evidential}P: in the case of parentheticals the (tensed) sentential moves to Spec Mood_{evidential}P, in the case of evidential raising verbs, the subject of their infinitival complement. The analysis sketched here suggests a complementary distribution in the syntax of evidential interpretation of infinitival and finite complements.

- (43) a. Jules is back, it seems/they say
 b. Jules seems/is said to be back

The question arises though as to why the parenthetical configuration is much more productive than the raising configuration. There are much more verbs entering the parenthetical construction than evidential raising verbs. In addition, at least some evidential raising verbs do not enter the parenthetical construction, as the contrast between *it threatens to rain* and **it rains, it threatens* shows. I will leave such questions for further research.

Part II:

5. Complementizers and evidentiality: direct vs indirect speech

6. Evidentiality in DPs: insults, inversion structures, and evaluation

7. Invisible evidentiality

8. Conclusion

9. An Evidentiality Bibliography