

Evaluative adverbs at the syntax-semantics interface

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1 Introduction

Evaluative adverbs: *heureusement* ‘fortunately’, *malheureusement* ‘unfortunately’, *curieusement* ‘curiously’, *bizarrement* ‘strangely, oddly’, *incroyablement* ‘incredibly’, *étonnement* ‘amazingly’, *fâcheusement* ‘unfortunately’, *regrettablement* ‘regrettably’, *paradoxalement* ‘paradoxically’, *inexplicablement* ‘inexplicably’, etc.

In recent years, studied from two different point of views:

- Semantic type (Bartsch, 1976; Wyner, 1997; Eckardt, 1998; Ernst, 2000; Geuder, 2000): do they take events, facts, or propositions as their argument?
- Pragmatic status (Bartsch, 1976; Bellert, 1977; Bach, 1999; Green, 2000; Potts, 2003; Jayez and Rossari, to appear): not part of the main semantic content. Independent speech acts, ancillary propositions, conventional implicatures ?

We show that evaluatives take a propositional argument, and commit the speaker to the truth of a proposition, although they are not asserted *stricto sensu*. We then concentrate on the syntax-semantics interface.

We leave aside

- the nature (and existence) of conventional implicatures;
- the comparison of evaluatives with other purported CI-contributors.

2 Pragmatic status of evaluative adverbs

2.1 Not part of the main semantic content

Evaluatives do not influence the truth conditions of the main content.

- (1) Si Paul va, malheureusement, voir Marie, elle sera furieuse.
‘If, unfortunately, Paul goes to see Marie, she will be furious.’

⇔

Si Paul va voir Marie, elle sera furieuse.

'If Paul goes to see Marie, she will be furious.'

The content of a sentence containing an evaluative is identical to that of the sentence without the evaluative.

- (2) a. Si Paul est en retard, il est malheureux qu'il le soit.
'If Paul is late, it is unfortunate that he is.'
b. # Si Paul est en retard, Il est malheureusement en retard.
'If Paul is late, he is unfortunately late.'
compare Si Paul est en retard, Paul est en retard.
'If Paul is late, Paul is late.'

Evaluatives are possible in questions, but they are not part of the query.

- (3) Qui est bizarrement arrivé à l'heure ?
asks: who arrived on time?
commits the speaker to: if there is an x that arrived on time, it is weird that there is an x who arrived on time.

2.2 Evaluatives are not presupposed

1. Evaluatives are veridical.

- (4) Paul est malheureusement en retard
'Unfortunately Paul is late'
⇒ 'Paul is late'

2. The evaluative does not presuppose its argument.

- Presupposition filters: see (2b) above. Compare:

- (5) Si Paul est en retard, il sera désolé de l'être.
'If Paul is late, he will be sorry to be late.'
≠ 'Paul is late.'

- Presupposition holes

- (6) a. Si Paul va, malheureusement, voir Marie, elle sera furieuse.
'If, unfortunately, Paul meets Marie, she will be furious.'
≠ 'Paul meets Marie.'
b. Si Marie regrette que Paul soit en retard, c'est qu'elle ne le connaît pas.
'If Marie regrets that Paul is late, she does not know him very well.'
⇒ Paul is late
- (7) a. Probablement, Paul arrivera malheureusement en retard.
'Probably, Paul will unfortunately be late.'
≠ 'Paul will be late'

- b. Marie regrette probablement que Paul soit en retard
 'Probably, Marie regrets that Paul is late'
 ⇒ Paul is late
- Note that evaluative *adjectives* presuppose their argument (2a,8).
- (8) a. S'il est malheureux que Paul ait vu Marie, il est tragique qu'il l'ait insultée.
 'If, it is unfortunate that Paul met Marie, it is tragic that he insulted her.'
 ⇒ 'Paul met Marie.'
- b. Probablement qu'il est malheureux que Paul ait vu Marie.
 'It is probably unfortunate that Paul met Marie.'
 ⇒ 'Paul met Marie'
3. The evaluative itself is not presupposed. Like a presupposition, it conveys a secondary commitment. But:
- Presupposition triggers normally make some contribution to the main semantic content. Evaluatives *only* convey a secondary commitment.
 - The commitment cannot be contested with the usual means (Jayez and Rossari, to appear) but it *can* be contested without withdrawing the main content (Potts, 2003).
- (9) A: Paul a malheureusement perdu l'élection.
 'Paul unfortunately lost the election.'
 B: # C'est faux, je trouve que c'est une très bonne nouvelle.
 'That's not true, I think it is very good news'.
 B: C'est vrai, mais moi, je trouve que c'est une très bonne nouvelle !
 'Yes, but I personally think it is great news!'
- (10) A: Paul regrette d'être venu.
 'Paul regrets that he came.'
 B: # Oui, mais Paul n'est pas venu !
 'Yes (he would have regretted that), but Paul did not come!'

2.3 Evaluatives in a model of dialogue

For the sake of discussion we adopt Ginzburg's view of dialogue (Ginzburg, to appear).

- Each participant in a discourse keeps a *dialogue gameboard* consisting of *public* and *private* parts.
- The *public* part contains:
 - The *Questions Under Discussion* (QUD), a partially ordered set of questions.
 - The *LATEST MOVE*, a representation of the last utterance.
 - The *FACTS*, what this participant is publicly committed to.
- When speaker *s* asserts *p*:

- s puts p in his own FACTS.
- s puts the question ‘whether p ’ on the top of his QUD.
- When addressee a considers s ’s assertion of p : a puts the question ‘whether p ’ on the top of his QUD.
- When a accepts s ’s assertion of p :
 - a puts p in his own FACTS.
 - a removes ‘whether p ’ from his QUD.

Evaluatives: when uttering ‘malheureusement p ’, the speaker puts the evaluative in his own FACTS without putting it on the QUD.

- The evaluative is not under discussion thus it cannot be rejected by the usual methods (e.g. *c’est faux*).
- The main assertion can be accepted or rejected independently of the evaluative.
- The addressee is not committed to the evaluative in any way (‘speaker orientation’)

Compare presuppositions: when s presupposes p , s behaves as if p were both in his and in the addressee’s FACTS. Thus the utterance cannot be accepted without accepting the presupposition.

2.4 Who is responsible for the evaluation?

In simple cases the evaluation is a commitment of the speaker. It can be a commitment of another agent in reportive contexts (Bach (1999); Geuder (2000); Jayez and Rossari (to appear); *contra* Potts (2003)):

- (11) Marie expliquait que le prêtre, bizarrement, avait perdu la foi.
 ‘Marie explained that the priest, strangely, had lost his faith.’
- a. Quand je lui dis ma surprise, elle soutint qu’il ny avait là rien de bizarre.
 ‘When I told her I was surprised, she maintained that it was not strange at all.’
 - b. Moi, je ne vois rien de spécialement bizarre à ce qu’un prêtre perde la foi.
 ‘I personally do not find it strange for a priest to lose his faith.’

Also seems to be true with (i) reportive adjuncts, (ii) at least in some cases, attitude verbs.

- (12) Selon Marie, le prêtre avait bizarrement perdu la foi.
 ‘According to Marie, the priest had strangely lost his faith.’
may convey : Marie found it weird that he lost his faith.
- (13) Marie pense que le prêtre, bizarrement, a perdu la foi.
 ‘Marie thinks that the priest, strangely, had lost his faith.’
may convey : Marie found it weird that he lost his faith.

In some contexts, the evaluative may even be attributed to the addressee.

- (14) context *A* and *B* are discussing the football match between Lyon and Porto. *A* is a supporter of Lyon, and *B* is a supporter of Porto. Alberto and McCarthy both play for Porto, but only McCarthy scored during the match under discussion.
- A: Alberto a malheureusement marqué un but.
'Unfortunately, Alberto scored.'
- B: ?Non, c'est McCarthy qui a "malheureusement" marqué un but.
'No, McCarthy unfortunately scored.'

The data is quite tricky since it is very difficult (if not impossible) to tell whether direct quotation takes place. The same question holds for the reportive uses.

For the remainder of this paper we concentrate on cases where the evaluation is a commitment of the speaker.

3 The semantic type of evaluative adverbs

3.1 The data

- Geuder (2000): evaluatives pattern with modals and contrast with agentive adverbs in allowing all boolean operations.
- (15) a. Heureusement, Jean viendra et il parlera à Marie.
'Fortunately, Paul will come and he will speak to Marie.'
- b. Probablement, Jean viendra et il parlera à Marie.
'Probably, Paul will come and he will speak to Marie.'
- c. Gentiment, Jean viendra et il parlera à Marie.
'Kindly, Paul will come and he will speak to Marie.'
- (16) a. Heureusement, Paul ne portera pas plainte.
'Fortunately Paul will not press charges.'
- b. Paul ne portera probablement pas plainte.
'Paul will probably not press charges.'
- c. Gentiment, Paul ne portera pas plainte.
'Paul will kindly not press charges.'
- (17) a. Heureusement, Paul a téléphoné à Marie ou il lui a écrit.
'Fortunately, Paul phoned Marie or he wrote to her.'
- b. Probablement, Paul a téléphoné à Marie ou il lui a écrit.
'Probably, Paul phoned Marie or he wrote to her.'
- c. ??Gentiment, Paul a téléphoné à Marie ou il lui a écrit.
'Probably, Paul phoned Marie or he wrote to her.'
- (18) a. Heureusement, si Paul a téléphoné à Marie, il lui aura expliqué la situation.
'Fortunately, if Paul phoned Marie, he explained the situation.'
- b. Probablement, si Paul a téléphoné à Marie, il lui aura expliqué la situation.
'Probably, if Paul phoned Marie, he explained the situation.'

- c. *Gentiment, si Paul a téléphoné à Marie, il lui aura expliqué la situation.
 ‘Gently, if Paul phoned Marie, he explained the situation.’

- Evaluatives are possible in assertions and questions (see (3)), but not in orders.

- (19) *Arrive bizarrement en retard !
 ‘Strangely, be late!’
- (20) *Refuse paradoxalement de répondre !
 ‘Paradoxically refuse to answer!’
- (21) *Fais heureusement ce qu’il te dit !
 ‘Fortunately, do what he says!’

Note: *malheureusement* can function like a speech act adverb. Under such a reading (and under such a reading only) it can occur in orders. Compare *franchement*, which has no evaluative reading.

- (22) Fais malheureusement ce qu’il te dit !
 ‘Do what he says, unfortunately.’
may convey: ‘I find it unfortunate that I have to ask you to do what he says.’
may not convey: ‘It is unfortunate that you will do what he says.’
- (23) Franchement, fais ce qu’il te dit !
 ‘Frankly, do what he says’
conveys: ‘I tell you frankly that you should do what he says.’

NB: modals behave just like evaluatives.

- (24) a. Jean a-t-il forcément raison ?
 ‘Is Jean necessarily right?’
- b. *Sois forcément à l’heure !
 ‘Be necessarily on time!’

3.2 Ginzburg and Sag’s ontology

Our proposal: like modals, evaluatives take a *proposition* as argument.

We rely on (a version of) Ginzburg and Sag’s (2000) ontology.

- At least four types of structured semantic objects: *state of affairs (soa)*, *propositions*, *questions*, *outcomes*.
- *soas* are elementary informational objects. They can be conjoined or negated but not disjoined.
- *Propositions* are constructed out of *soas*. All boolean operations are defined on propositions. The content of a declarative clause is a proposition.
- *Questions* are constructed out of (open) propositions by abstraction. The content of an interrogative clause is a question.
- *Outcomes* are constructed out of *soas*. The content of an imperative is an outcome.

We assume that evaluatives and modals are of type $\langle prop, prop \rangle$, while agentive adverbs are of type $\langle soa, prop \rangle$ and manner adverbs are of type $\langle soa, soa \rangle$. Predictions:

- Modals and evaluatives, but not agentives and manners, should be able to take wide scope over a disjunction or a conditional.
- Agentives and manners should occur in all clauses, taking scope over the basic *soa* contributed by the verb.
- Modals and evaluatives should occur in assertions (taking scope over the asserted proposition) and in questions (taking scope over the open proposition on which the question is constructed).
- Modals and evaluatives should not occur in orders, since outcomes are not constructed out of propositions.

Remaining data: some ungrammaticalities are unaccounted for:

- (25) ??Je doute que Paul soit malheureusement venu.
 ‘I doubt that Paul unfortunately came.’
- (26) # Paul n’est pas malheureusement venu.
 (lit.) ‘Paul did not unfortunately come.’

Proposal: to say *Eval p*, the speaker must at least entertain the possibility that *p* is true. This is the case in conditionals and in modal sentences, but not under negation or predicates with a negative implicature.

3.3 The lexical entry of evaluatives

- The content of *malheureusement* is :

$$\text{malheureusement} \equiv \lambda p. [(\exists^* p) \rightarrow \text{malheureux}(\exists^* p)]$$

where *p* is the (open) proposition the adverb takes as argument, and \exists^* notes existential closure.

- This content is not input to the main semantic composition. Rather, *malheureusement(p)* is directly added to the speaker’s FACTS set.

Note that:

- *malheureux* presupposes its argument, but this presupposition is cancelled by the conditional.
- if *p* is asserted, then the speaker is committed to *malheureux(p)*

4 The syntax-semantics interface

4.1 The puzzle

Despite the fact that they do not contribute to the main content, evaluatives seem to take scope.

- (27) a. Malheureusement, Paul a soumis son résumé le 20 janvier.
asserts: Paul submitted his abstract on January 20.
commits the speaker to: It is unfortunate that Paul submitted his abstract on January 20.
- b. Le 20 janvier, Paul a malheureusement soumis son résumé.
asserts: Paul submitted his abstract on January 20.
commits the speaker to: It is unfortunate that Paul submitted his abstract (whatever the date).
- (28) a. Qui est, bizarrement, arrivé à l'heure ?
asks: who arrived on time?
commits the speaker to: if anyone arrived on time, it is weird that he did.
- b. *Bizarrement, qui est arrivé à l'heure ?

4.2 Background on MRS

Copestake et al. (2003); formal framework for the underspecification of scopal relations in semantic representation.

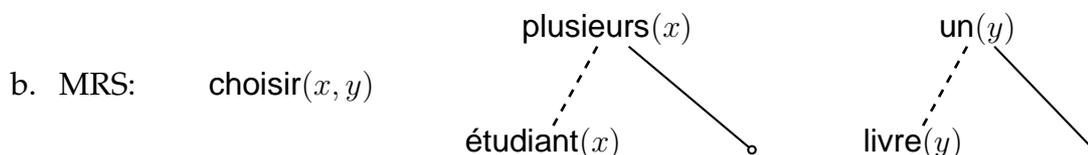
- For each sentence, the grammar outputs a unique semantic representation (a Minimal Recursion Structure, or MRS) which is neutral with respect to a number of scopal relations.
- This representation can be *resolved* to a fully specified representation which is uniquely translatable in a standard meaning language.
- Each resolution corresponds to a different reading of the sentence.

MRSs are easily used as the semantic side of an HPSG grammar. For brevity we present only an informal picture of the analysis.

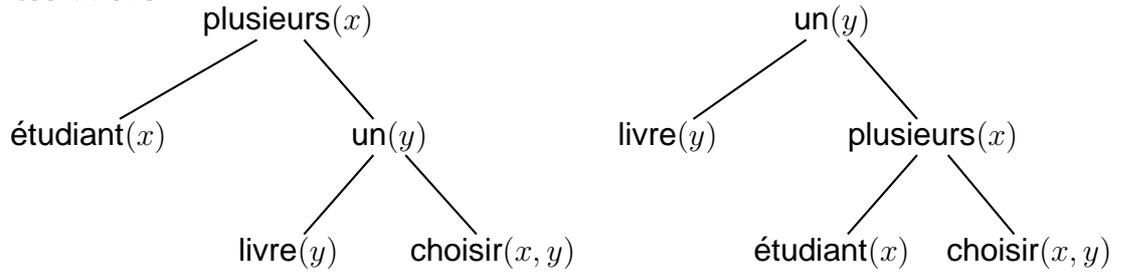
MRSs can be conceived as collections of tree chunks. MRS resolution consists of constructing a single tree from the chunks.

- Scopal arguments of relations are represented by tree branches.
- Dashed lines correspond to places where tree chunks may be inserted.
- Empty nodes must be filled in the resolved representation.

- (29) a. Plusieurs étudiants ont choisi un livre



c. Resolutions:



NB: MRSs are meaning *representations*, not semantic objects. Thus some representations may have no interpretation because of type clashes.¹

4.3 Bonami & Godard 2003: MRS for adverbs

Adverbs in the VP

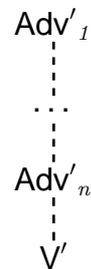
General observation: disregarding incidentals, adverbs in the VP scope from left to right.

- (30) a. Jean est probablement rapidement venu
 b. *Jean est rapidement probablement venu

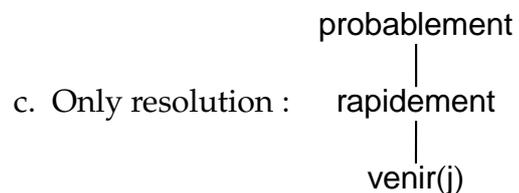
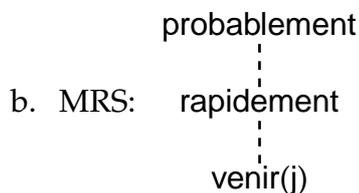
Standard solution (Laezlinger, 1998; Cinque, 1999) : adverbs are generated in the left periphery of the VP, each adverb c-commanding the ones it scopes over. Parts of the VP then move left.

MRS allows for a movement-less analysis : adverbs are base-generated in the VP, in their surface position.

If a VP contains adverbs Adv_1, \dots, Adv_n in that order, its MRS is of the form

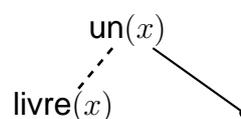
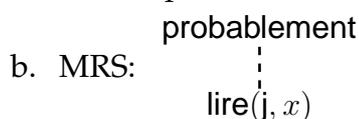


- (31) a. Jean est probablement rapidement venu



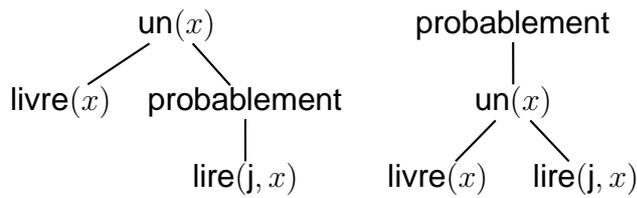
Interaction with quantifiers

- (32) a. Jean lit probablement un livre



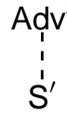
¹This could be avoided by imposing a (syntactic) typing regime on *handles*. We do not attempt to do so here for the sake of readability.

c. Possible resolutions:

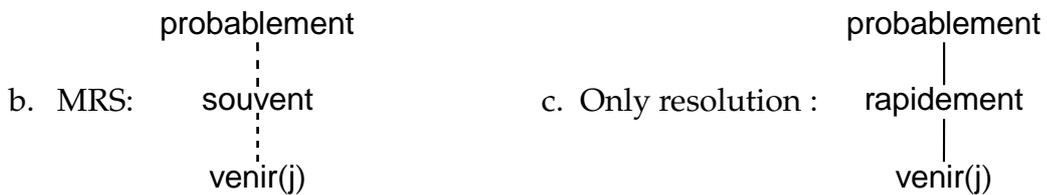


S-initial adverbs

S-initial adverbs are adjoined to S.² Semantics of [Adv S]:



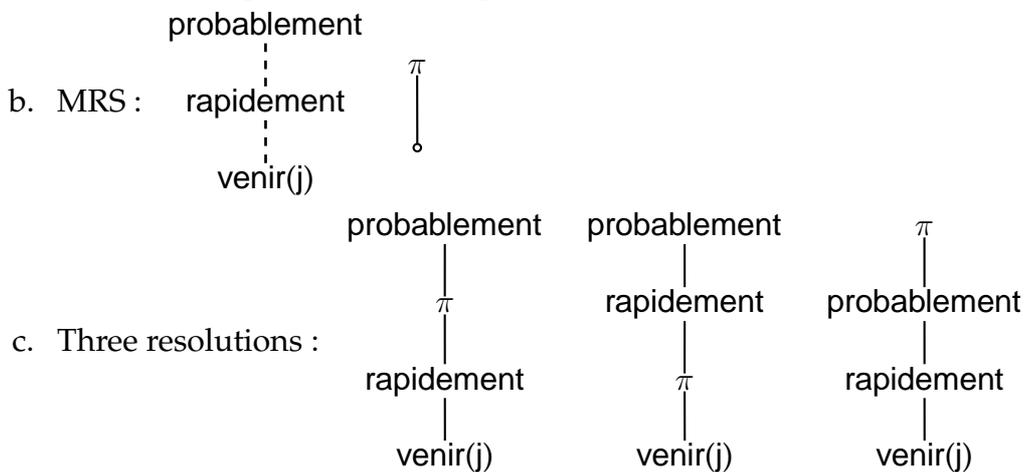
(33) a. Probablement, Jean est rapidement venu.



4.4 Integrating Ginzburg and Sag's (2000) ontology

The Declarative Clause Construction contributes a type shifting operator π , which turns SOAs into associated propositions. This operator is not constrained scopally by the grammar.

(34) a. Jean viendra probablement rapidement.

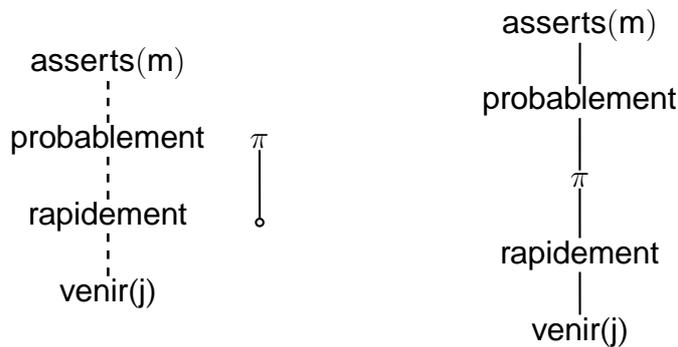


Only the first resolution corresponds to a possible interpretation, because of typing: *venir(j)* is of type *soa*, *rapidement* is of type $\langle soa, soa \rangle$, *probablement* is of type $\langle prop, prop \rangle$.

Root clauses contribute an illocutionary relation (Ginzburg et al., 2001), which must scope at the top.

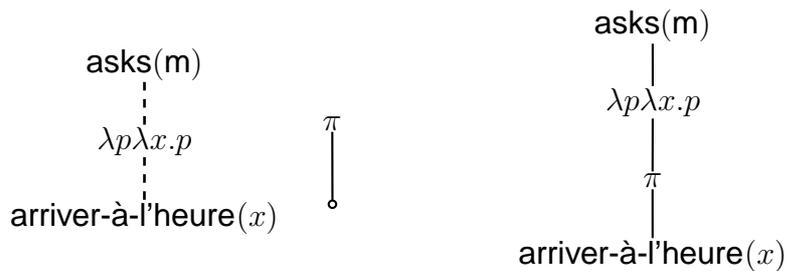
²This is a simplification. Bonami & Godard (2003) proposes a uniform syntax for incidental adverbs, be they S-initial, S-final or somewhere within S. All are adjoined to VP, and linearized freely thanks to a separate word order component. This simplification has no consequence on the syntax-semantics interface.

- (35) a. Marie says: *Jean viendra probablement rapidement*
 b. MRS c. Only interpretable resolution



Interrogatives : the Interrogative Clause Construction contributes a floating π operator. In addition, the *wh*-interrogative construction contributes an abstraction operation determined by the nature and number of *wh*- phrases.

- (36) a. Marie asks : *Qui est arrivé à l'heure ?*
 b. MRS c. Only interpretable resolution



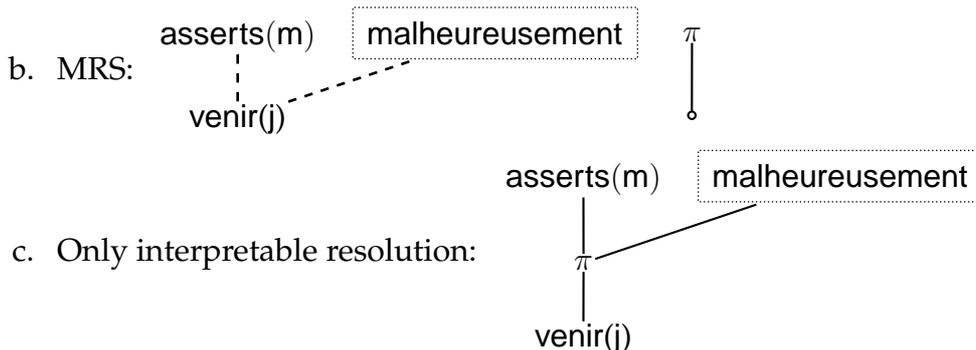
- d. Linear notation: $\text{asks}(m, \lambda x. \pi(\text{arriver-à-l'heure}(x)))$

4.5 Evaluative adverbs

General strategy

Evaluatives are not integrated into the main MRS. The semantics of the evaluative is not part of the main CONTENT, but directly inserted in the speaker's FACTS. In the informal representation we put in a dashed box material that is not part of the main MRS.

- (37) a. Marie says: *Malheureusement, Jean viendra*



- d. Linear notation:
 Content: $\text{asserts}(m, \pi(\text{venir}(j)))$
 Added to Marie's FACTS:
 $\pi(\text{venir}(j)) \rightarrow \text{malheureux}(\pi(\text{venir}(j)))$

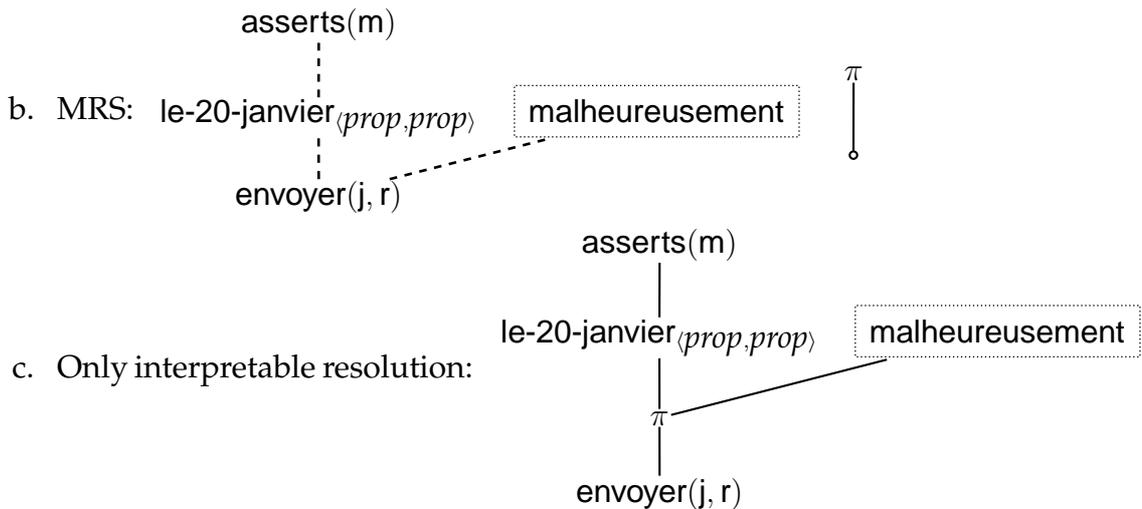
Note that, crucially, the *argument* of the evaluative is part of the main MRS. This corresponds to Pott's generalization (parentheticals are functions from at-issue content to conventional implicatures). In our framework it also constrains scope resolution to be identical in the main assertion and in the evaluative comment.

Time adverbials

Time adverbials are polymorphic: they are $\langle \text{prop}, \text{prop} \rangle$ when S-initial, and $\langle \text{soa}, \text{soa} \rangle$ when VP-internal.

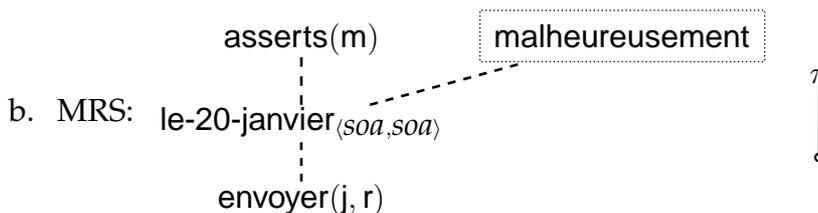
- (38) a. Bientôt, Paul ira probablement à Paris.
 'Soon, Paul will probably go to Paris.'
 b. Paul ira probablement bientôt à Paris.
 c. *Paul ira bientôt probablement à Paris.

- (39) a. Marie says: *Le 20 janvier, Jean a malheureusement envoyé son résumé.*



- d. Linear notation:
 Content: $\text{asserts}(m, \text{le-20-janvier}(\pi(\text{envoyer}(j, r))))$
 Added to Marie's FACTS:
 $\text{le-20-janvier}(\pi(\text{envoyer}(j, r))) \rightarrow$
 $\text{malheureux}(\text{le-20-janvier}(\pi(\text{envoyer}(j, r))))$

- (40) a. Marie says: *Malheureusement, Jean a envoyé son résumé le 20 janvier.*

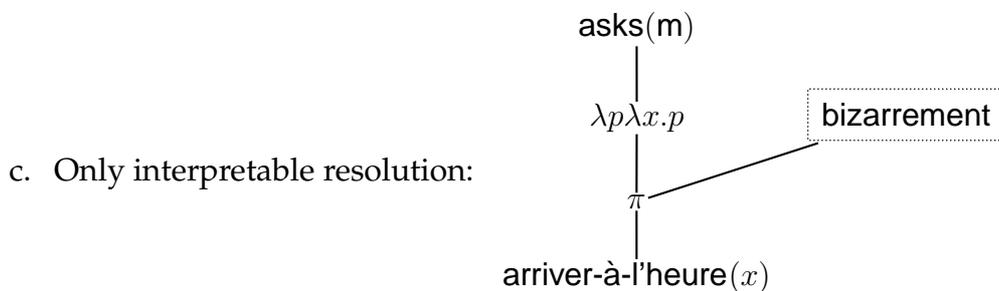
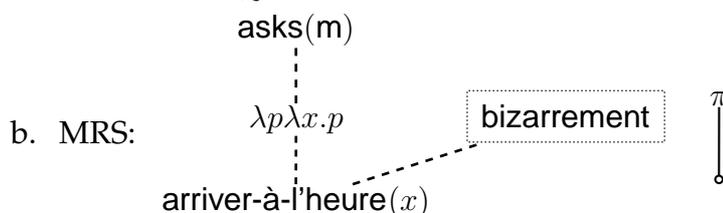


- c. Only interpretable resolution:
-
- d. Linear notation:
 Content: $\text{asserts}(m, \pi(\text{le-20-janvier}(\text{envoyer}(j, r))))$
 Added to Marie's FACTS:
 $\pi(\text{envoyer}(j, r)) \rightarrow \text{malheureux}(\pi(\text{envoyer}(j, r)))$

Position in interrogatives

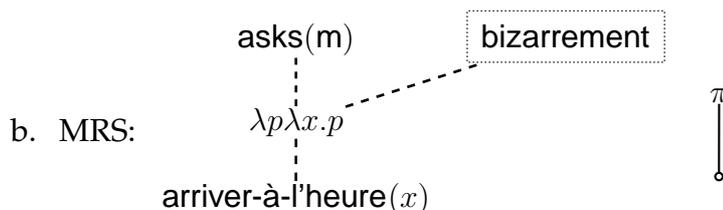
Evaluatives in interrogatives scope between the π operator and the abstraction operation

- (41) a. Marie asks : *Qui est bizarrement arrivé à l'heure ?*

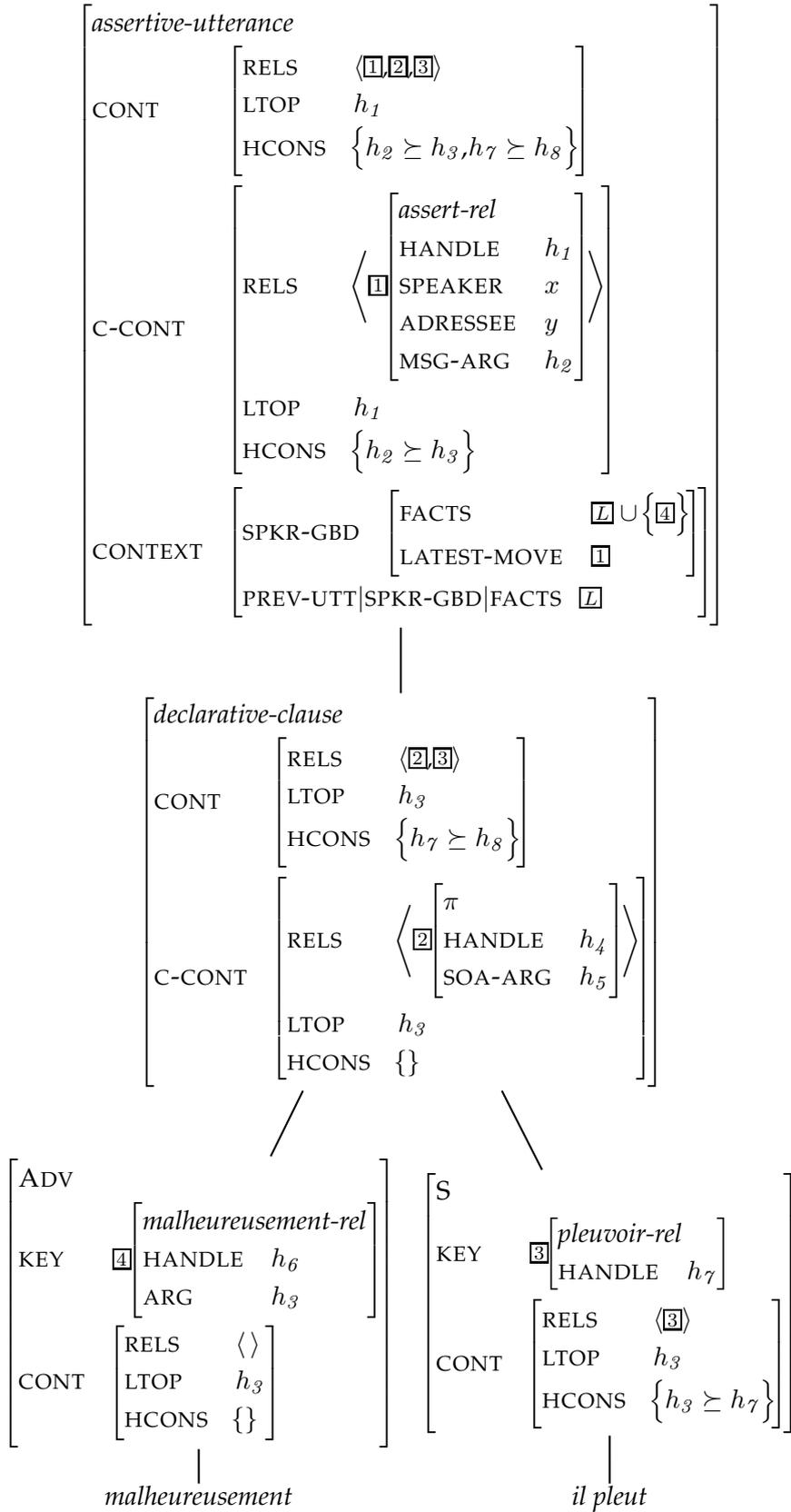


- d. Linear notation:
 Content: $\text{asks}(m, \lambda x. \pi(\text{arriver-à-l'heure}(x)))$
 Added to Marie's FACTS:
 $\exists x. \pi(\text{arriver-à-l'heure}(x)) \rightarrow \text{malheureux}(\exists x. \pi(\text{arriver-à-l'heure}(x)))$

- (42) a. Marie asks : **Bizarrement, Qui est arrivé à l'heure ?*



- c. No interpretable resolution: *bizarrement* asks for a propositional argument, and only finds a proposition abstract.



Only interpretable resolution: $h_1 \succ h_2, h_2 = h_3 = h_4, h_4 \succ h_5, h_5 = h_7$

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