On the pragmasemantics of a high adjunct wh-word

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The issue Questions with *comment* (how) in French, such as (1a), allow a reason reading, highlighted by the possible congruent answer (1b). Manner and means readings are also available but less salient, e.g. (1c,d) are possible answers. This reason reading is somewhat close to 'why', and is reminiscent of the why-how alternation (Collins 1991, Ochi 2004). It concerns the reasons the situation of 'Max reading Paul's mail' could come about, and conveys the information that such a situation (actual or potential) disconfirms the speaker's expectations. In the literature, it has been argued that the adjunct *why* in questions like *Why did Max leave?* is externally merged in the left periphery of the clause and does not bind any syntactic variable, cf. (Rizzi 1990, 2001) i.a. A similar high base generated analysis might be explored for *comment* with a reason reading in (1a), as it is not sensitive to negation in the clause where it would be construed (2) and should be rooted higher. In this talk, we provide pragmasemantic substance for such a syntactic option, but with a twist. The sentential force (Stalnaker 1979) of a reason question with *comment* would be that of a regular request for information, denoting a set of propositions (Hamblin 1973 and ff). Its specificity, we suggest, is primarily in its utterance force (Murray and Starr 2018). The reason reading expresses an attempt by the speaker to get information to change her disconfirmed expectations, not to partition the common ground.

(1) a. Comment Max peut-il lire le courrier de Paul? (How can Max read Paul's mail?)
 b. Il est curieux (He is curious)   c. A la hâte (Cursorily)   d. Avec une loupe (With a hand magnifier)

(2) a. Comment Max n'a-t-il pas lu le courrier de Paul? (How could Max not have read Paul's mail?)
 b. Il n'est pas curieux (He isn't curious)   c. # A la hâte   d. # Avec une loupe

About reason questions with *comment* *Comment* interpreted as being about a reason occurs in sentence initial position, where it is understood not to bind a variable low in the syntactic structure, below the IP node. It seems to work as an operator over the rest of the sentence, questioning some conditions about the proposition p expressed by the clause, henceforth referred to as 'prejacent'. The prejacent p in (1a) is the proposition *Max lit le courrier de Paul*. Factors giving prominence to the reason reading correlate with the syntactic expression of the prejacent as a separate clause, e.g. when the clause is a clausal complement of attitude or opinion verbs, or is embedded under a modal or negation. Although this might not appear from the English translation, the prejacent is not necessarily true. Factors enhancing its factuality are e.g. the use of the passé composé in the clause (3). Factors going against it are e.g. the use of a conditional verb form (4). In all cases, the prejacent conveys topic information, and the reason(s) for its (potential) actualisation are focussed on in the question. Note also that these questions show some characteristics usually associated with exclamativeness and mirativity, and at times a hint of disapproval, though the intonation is not typical of exclamatives.

(3) Comment Max a lu le courrier de Paul? (How comes that Max read Paul's mail?)

(4) Comment Max aurait lu le courrier de Paul? (How could it be that Max read Paul's mail?)

Our proposal **1-** Whether the prejacent is true or not, the speaker perceives it as describing a situation contrasting with her expectations. In the discourse dynamics tradition, the Common Ground is the set of propositions that are taken for granted by a group of interlocutors in a conversation. Expectations (Exp) are a subset of the epistemic state of an agent. We assume that Exp is a minimal set containing only propositions relevant for the truth of p at the time the question with *comment* is uttered. More precisely, these propositions are those that make p non contingent for the speaker, i.e. Exp makes p false in all the worlds faithful to this expectation.
2- In asking (1a), the speaker initiates a search in reaction to an expectation disconfirmation, aiming at finding some proposition that may resolve the conflict between the situation described by p and the speaker's expectations (Exp), and that makes p contingent, i.e. there is at least one p-world in the intersection of the new expectation set. The speaker's expectation is based on relevant propositions. It may contain some specific information, e.g. p_1=*Max is respectful*, and a causal schema, e.g. $p_1 \rightarrow \neg p$= *if Max is respectful then he doesn't read the mail of others* (and specifically Paul's). The speaker expects the actual world to belong to the set characterised by her expectations. Thus, in (5), she expects propositions p_1 and $p_1 \rightarrow \neg p$ to be true.

(5)   Comment Max lit le courrier de Paul? (How (is it/could it be) that Max read Paul's mail?)

3- We need a way to compute equivalence classes among worlds. We follow Lewis (1988), and assume that two worlds are considered alike if the relevant propositions have the same truth values on these two worlds. This being alike is an equivalence relation that Lewis called *subject matter*. The equivalence classes of such a relation are the cells of a partition on the possible worlds W. Each cell of this partition is a maximally specific way things might be wrt relevant propositions and could be used as the speaker's expectation set. Assume S_{Exp} is the subject matter that corresponds to the propositions in Exp= $\{p_1, p_1 \to \neg p\}$. S_{Exp} can be computed as the collection of equivalence classes based on the propositions in Exp (von Fintel and Gillies 2010). Recall that $S_0 = W \times W$ (universal relation on W). Next, $S[q] = \{< w, v > \in S | w \in q$ iff $v \in q\}$, where S is an equivalence relation on W and q a proposition. Thus, $S_{Exp} = S_0[p_1][p_1 \to \neg p]$. For Lewis, a proposition q is *about* the subject matter S_{Exp} iff the truth value of that proposition is non-contingent on each equivalence class of that subject matter, i.e. whenever two worlds w and v are alike (i.e. are in the same equivalence class), both w and v give q the same truth value. The notion of *aboutness* is equivalent to the notion of *issue* (von Fintel and Gillies 2010) where a proposition q is considered an issue in a subject matter S iff $S[q] = S$. For instance, p_1 and $p_1 \to \neg p$ are about the subject matter (are issues in that subject matter), they are non-contingent on each equivalence class of the subject matter S_{Exp}, but so are also $\neg p_1, p_1 \wedge (p_1 \to \neg p), \neg p_1 \vee (p_1 \to \neg p)$, etc.

4- We are now able to state that the prejacent cannot be an issue in the subject matter S_{Exp}. It can be easily seen that the prejacent is contingent in some equivalence classes ($\neg p_1$), non-contingent in some others (true in $p \wedge p_1$ and false in $\neg p \wedge p_1$) in our example. However, the expectation of the speaker corresponds to the cell $\neg p \wedge p_1$ (the intersection of Exp) where the prejacent is non-contingently false. This is why the speaker is stuck, and by asking a reason question with *comment*, she aims at undoing the status of non-contingency of the prejacent in her expectations.

5- All the machinary is in place, and we can consider the domain of the possible answers. A yes/no question like *Max lit-il le courrier de Paul?* (Does Max read Paul's mail?) is standardly assumed to give rise to two alternatives, one corresponding to the worlds where Max reads Paul's mail and one corresponding to the worlds where Max does not read Paul's mail. By contrast, question (5) does not give rise to any alternative *per se*. The alternatives depend on the current expectations of the speaker and on the information that she can get from the context.

6- Finally, we can characterise relevant answers. Consider question (5) again, and the possible answer *Max est trop curieux* (Max is ways too curious) (p_3). The speaker had no reason to believe that Max may be irrespectfull ($\neg p_1$). If p_3 is judged relevant, it may be taken as a possible cause for the lack of respect by Max ($\neg p_1$), but does not entail it. In particular, if p_3 is a possible cause of $\neg p_1$, then some p_3-worlds are $\neg p_1$-worlds (those where p_3 causes $\neg p_1$) and other p_3-worlds are p_1-worlds (those where p_3 does not cause $\neg p_1$). Moreover $\neg p_3$-worlds are still expected to be p_1-worlds. So $\neg p_3 \to p_1$ is expected. Then the prejacent p is contingent in the intersection of the new expectation set $\{\neg p_3 \to p_1, p_1 \to \neg p\}$, that is $(p_3 \wedge \neg p_1) \vee (p_1 \wedge \neg p)$. In sum, possible relevant answers to reason questions with *comment* are propositions that allow the speaker to update her expectation set non-monotonically. They are not an issue in the subject matter, e.g. p_3 (*Max is too curious*), or, if they are an issue, then they can change the expectations, e.g. $\neg p_1$ (*Max is not respectful*).

Selected references: Collins 1991, Why and how come, *MITWPL 15* ● Lewis 1988, Relevant implication, *Theoria 54* ● Murray and Starr 2018, Force and conversational states, in *New Work on Speech Acts*, OUP ● von Fintel and Gillies 2010, 'must'...stay...strong! *NLS 18*