# Unifying the French evidential construction *on di(rai)t que* Supplementary material to the poster

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## 1 Showing that (2) is equivalent to (2')

- The sentences (from the poster):

(2) On dit **pas** que Jean est malade.
ON say **Neg** that Jean is.IND sick.

(2′) On dit que Jean est **pas** malade.
ON say that Jean is.IND **Neg** sick.

- The basic definitions (from the poster, presupposition underlined for clarity). Note that because *dire* takes a world-even pair as intensional argument, and that both the world and the event are independently useful in its lexical entry, we need to adapt the definition of the evidential modal to act on world-event pairs as well.

$$[\![\mathrm{M}_{\mathcal{E}}]\!]^{e^*} = \lambda\langle p, e, w\rangle. \quad \forall\langle e', w'\rangle \in \mathcal{E}(spk_{e^*}, e, w).\ p(e', w')$$

$$[\![dire]\!]^{e^*} = \lambda\langle x, p, e, w\rangle : \underline{e'' \sim e \text{ evidentially settles } p \text{ for } x \text{ in } w}.\ \forall\langle e', w'\rangle \in \mathcal{E}(x, e'', w).\ p(e', w')$$

$$\left(\begin{array}{c} e'' \text{ evidentially settles} \\ p \text{ according to x in w} \end{array}\right) \iff \left\{\begin{array}{c} \forall\langle e', w'\rangle \in \mathcal{E}(x, e'', w).\ p(e', w') \\ \vee\ \forall\langle e', w'\rangle \in \mathcal{E}(x, e'', w).\ \neg p(e', w') \end{array}\right\} \iff \left(\begin{array}{c} e'' \text{ evidentially settles} \\ \neg p \text{ according to x in w} \end{array}\right)$$

- Computation of the meaning of the high-negation variant (2):

$$[\![on\ dit\ p]\!]^{e^*} = \lambda\langle e, w\rangle : \underline{e'' \sim e \text{ evidentially settles } p \text{ for } [\![\text{on}]\!] \text{ in } w}.\ \forall\langle e', w'\rangle \in \mathcal{E}([\![on]\!], e'', w).\ p(e', w')$$

$$[\![\text{NEG}\ on\ dit\ p]\!]^{e^*} = \lambda\langle e, w\rangle : \underline{e'' \sim e \text{ evidentially settles } p \text{ for } [\![\text{on}]\!] \text{ in } w}.\ \exists\langle e', w'\rangle \in \mathcal{E}([\![on]\!], e'', w).\ \neg p(e', w')$$

- Computation of the meaning of the low-negation variant (2′). Recall that evidentially settling $p$ amounts to evidentially settling $\neg p$.

$$[\![on\ dit\ \text{NEG}\ p]\!]^{e^*} = \lambda\langle e, w\rangle : \underline{e'' \sim e \text{ evidentially settles } p \text{ for } [\![\text{on}]\!] \text{ in } w}.\ \forall\langle e', w'\rangle \in \mathcal{E}([\![on]\!], e'', w).\ \neg p(e', w')$$

- We see that (2) and (2′) are defined under the same conditions, i.e. when $e''$ is s.t. $\forall\langle e', w'\rangle \in \mathcal{E}([\![on]\!], e'', w).\ p(e', w') \vee \forall\langle e', w'\rangle \in \mathcal{E}([\![on]\!], e'', w).\ \neg p(e', w')$. Let's now show (2) and (2′) have same truth conditions. We keep the content coming from the homogeneity presupposition underlined for clarity.

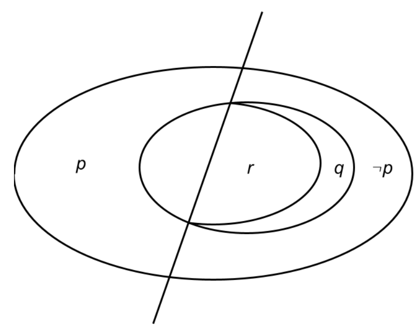
$$
\begin{aligned}
(2) \text{ is true} &\iff [\![\textsc{Neg}\ \textit{on dit}\ p]\!]^{e^*} \text{ is true}\\
&\iff \left(\begin{array}{c}\underline{\cancel{\forall\langle e',w'\rangle \in \mathcal{E}([\![on]\!],e'',w).\ p(e',w')}}\\ \underline{\vee\forall\langle e',w'\rangle \in \mathcal{E}([\![on]\!],e'',w).\ \neg p(e',w')}\end{array}\right) \wedge \exists\langle e',w'\rangle \in \mathcal{E}([\![on]\!],e'',w).\ \neg p(e',w')\\
&\iff \forall\langle e',w'\rangle \in \mathcal{E}([\![on]\!],e'',w).\ \neg p(e',w') \wedge \exists\langle e',w'\rangle \in \mathcal{E}([\![on]\!],e'',w).\ \neg p(e',w')\\
&\iff \forall\langle e',w'\rangle \in \mathcal{E}([\![on]\!],e'',w).\ \neg p(e',w')\\
&\iff [\![\textit{on dit}\ \textsc{Neg}\ p]\!]^{e^*} \text{ is true}\\
&\iff (2') \text{ is true}
\end{aligned}
$$

- Note that this discussion is reminiscent of NEG-raising effects associated with verbs like *believe*,[1] whereby *I don't believe John is sick* implies its low-negation alternative *I believe John is not sick*, if it is reasonable to think the speaker is opinionated about John's health, i.e. either believes John is sick, or believes he is not. In other words, NEG-raising verbs with high negation are not blocked by their low-negation alternative. We think this difference with our account of *dire* might be explained if we buy the idea that the opinionatedness assumption that is needed to get the equivalence between the high- and low-negation forms is either not a presupposition of *believe* [Fillmore, 1963, Collins and Postal, 2014, Gajewski, 2012, Romoli, 2013], or, maybe, a "soft"/"pragmatic" presupposition [Bartsch, 1973, Abusch, 2005, Gajewski, 2005] which is not subject to our pragmatic competition principle.

## 2 On the division of labor between presupposition and assertion

- The general schema we are interested in is the following:

$$
S : p.\ q \text{ vs. } S' : p.\ r \text{ with } \left\{\begin{array}{ccc} p \wedge q & \equiv & r \wedge q \\ r & \overset{\not\Leftarrow}{\Rightarrow} & q \end{array}\right.
$$




- Note that in our particular case, $r$ is the assertion of $(2')$ and is incompatible with the negation of the homogeneity presupposition; while $q$ is the assertion of (2) and is compatible with the negation of the homogeneity presupposition.

- We want to argue $S'$ should be preferred to $S$, because the assertion of $S'$ is less compatible with $\neg p$ (i.e. the undefinedness domain of both sentences) than $S$'s assertion is.

$$
S' : p.\ r > S : p.\ q \iff (r \wedge \neg p) \overset{\not\Leftarrow}{\Rightarrow} (q \wedge \neg p)
$$

- Note that is equivalent to saying that $r$ should asymmetrically entail $q$, but gives a motivation for this constraint: if two sentences presuppose the same thing ans assert the same thing granted their presupposition, then the last way to compare them from a pragmatic competition perspective is by looking at whether or not the assertions suggest the presupposition might not hold. The competitor whose assertion is the least confusing w.r.t. the its presupposition, i.e. the least compatible with the negation of the presupposition, should be preferred.

[1] I thank an anonymous reviewer for pointing this out to me.

## 3 Showing that (4-5) are not equivalent to their low-negation alternatives

- The sentences (from the poster):

(4) On dirait pas que Jean est malade.
ON say.CND NEG that Jean is.IND sick.
'Jean does not seem sick.'

(5) On dirait pas que Jean soit malade.
ON say.CND NEG that Jean be.SBJV sick.
'Jean does not seem sick.'

- Their low-negation alternatives. (5′) is infelicitous due to the absence of matrix negation to license the embedded SBJV, so what is really left to be analyzed is the competition between (4) and (4′)

(4′) On dirait que Jean est pas malade.
ON say.CND that Jean is.IND NEG sick.
'Jean does not seem sick.'

(5′) # On dirait que Jean soit pas malade.
ON say.CND that Jean be.SBJV NEG sick.
'Jean does not seem sick.'

- The core structure of (4-5) (from the poster):

$$[\text{NEG } [M_{\mathcal{E}} \ [\textit{on dit } p]]]$$

- We first add the covert evidential modal $M_{\mathcal{E}}$ expressing CND on top of the core structure *on dit p*. We assume the presupposition of *dire* projects universally across the modal.

$$[\![\mathrm{M}_{\mathcal{E}} \ \textit{on dit } p]\!]^{e^*} = \lambda\langle e,w\rangle : \frac{\forall\langle e',w'\rangle \in \mathcal{E}(spk_{e^*},e,w).\ e'' \sim e' \text{ evidentially settles } p \text{ according to } [\![on]\!] \text{ in } w'.}{\forall\langle e',w'\rangle \in \mathcal{E}(spk_{e^*},e,w).\ \forall\langle e''',w'''\rangle \in \mathcal{E}([\![on]\!],e'',w').\ p(e''',w''')}$$

- We then add negation. The homogeneity presupposition allows to see the lower existential as a universal, for the same reason as in Section 1.

$$\begin{aligned}[\![\text{NEG M}_{\mathcal{E}} \ \textit{on dit } p]\!]^{e^*} &= \lambda\langle e,w\rangle : \frac{\forall\langle e',w'\rangle \in \mathcal{E}(spk_{e^*},e,w).\ e'' \sim e' \text{ evidentially settles } p \text{ according to } [\![on]\!] \text{ in } w'.}{\exists\langle e',w'\rangle \in \mathcal{E}(spk_{e^*},e,w).\ \exists\langle e''',w'''\rangle \in \mathcal{E}([\![on]\!],e'',w').\ \neg p(e''',w''')} \\ &= \lambda\langle e,w\rangle : \frac{\forall\langle e',w'\rangle \in \mathcal{E}(spk_{e^*},e,w).\ e'' \sim e' \text{ evidentially settles } p \text{ according to } [\![on]\!] \text{ in } w'.}{\exists\langle e',w'\rangle \in \mathcal{E}(spk_{e^*},e,w).\ \forall\langle e''',w'''\rangle \in \mathcal{E}([\![on]\!],e'',w').\ \neg p(e''',w''')}\end{aligned}$$

- And below is the computation of the low-negation competitor (recall that evidentially settling $p$ amounts to evidentially settling $\neg p$). We end up with a doubly universally modalized statement, different from the high-negation one.

$$[\![\mathrm{M}_{\mathcal{E}} \ \textit{on dit NEG } p]\!]^{e^*} = \lambda\langle e,w\rangle : \frac{\forall\langle e',w'\rangle \in \mathcal{E}(spk_{e^*},e,w).\ e'' \sim e' \text{ evidentially settles } p \text{ according to } [\![on]\!] \text{ in } w'.}{\forall\langle e',w'\rangle \in \mathcal{E}(spk_{e^*},e,w).\ \forall\langle e''',w'''\rangle \in \mathcal{E}([\![on]\!],e'',w').\ \neg p(e''',w''')}$$

# References

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