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Contents

A problem for Fox's (2007) account of free choice disjunction

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Sentence (1) conveys not just (2a) but also the free choice inferences (2b) and (2c), and sometimes also the negation of (2d).

(1) You may take an apple or a pear.

(2) a. There is at least one fruit (apple or pear) that you may take. $\diamond(A \vee B)$
b. You may take an apple. $\diamond A$
c. You may take a pear. $\diamond B$
d. You may take both an apple and a pear. $\diamond(A \wedge B)$

Sauerland's (2004) influential treatment of implicatures inspired Fox's (2007) account of free choice. Fox assumes a set of relevant propositions Q_C. Hearers infer speakers are ignorant about anything in Q_C their utterance does not settle. Fox defines an operator *Exh(austification)*, which strengthens utterances. Thus, suppose $Q_C = \{$(2a), (2b), (2c), (2d)$\}$. Unexhaustified, (1) only settles (2a); but parsed as (3), it also settles (2b)-(2d).

(3) $Exh\,[Exh\,(\diamond\,(A \vee B))] = \diamond A \wedge \diamond B \wedge \neg \diamond\,(A \wedge B)$

Why is (1) parsed as (3)? For Fox, *Exh* prevents implausible ignorance inferences. However, by that logic, many other parses of (1) should be equally available: e.g. (4a) settles (2a) and (2d), and (4b) settles (2a). Our paraphrases fold in the relevant ignorance inferences.

(4) a. $Exh\,(\diamond\,(A \vee B)) = \diamond\,(A \vee B) \wedge \neg \diamond\,(A \wedge B)$
"You may take an apple or a pear (I don't know which), but not both."
b. $\diamond Exh\,(A \vee B) = \diamond\,((A \vee B) \wedge \neg\,(A \wedge B))$
"You may take an apple or a pear (I don't know which) without the other."

Unlike (3), these parses do not entail (2b) or (2c). Free choice is thus derived only to the extent that hearers rule out such parses, and Fox's account is arguably not complete without an explanation of why they often do.

One might think hearers select (3) because it is the parse that settles the highest number of propositions in Q_C. But empirically, not all utterances of (1) settle (2d) (Simons 2005). Sometimes (1) communicates that hearers may take either fruit by itself, but does not settle (2d). We refer to this as the Simons reading. To explain this, Fox assumes another parse is also available for (1):

(5) $Exh\,[Exh\,(\diamond\,(Exh\,(A) \vee Exh\,(B)))] = \diamond\,(A \wedge \neg B) \wedge \diamond\,(B \wedge \neg A)$
"You may take either fruit by itself (leaving open whether you may take both)."

The remaining problem is how to explain why the preferred interpretations of (1) tend to be (3) and (5) rather than other LFs such as (4a) or (4b). Fox himself (n. 37) proposes conditions under which hearers insert *Exh*: (i) if the sentence has an undesirable Ignorance Inference; and (ii) only if the resulting sentence generates fewer Ignorance Inferences.

We think (i) and (ii) block (5) but are compatible with (4a) and (4b). For (5), the lowest two *Exh*s are not individually licensed by (ii). For (4a), take $Q_C = \{$(2a), (2d)$\}$. The *Exh* that is present is licensed because it settles (2d), and an additional *Exh* would not be licensed because (2a) is already settled. For (4b), suppose it is relevant whether one may take some fruit without taking the other. The proposition denoted by (4b) itself is then in Q_C. Suppose $Q_C = \{$(2a), (4b)$\}$. Evidently, (4b) settles (4b), so its *Exh* is licensed. Other constraints on *Exh* have been proposed (e.g. Chierchia et al. 2011; Fox and Spector 2018), but they are still compatible with (4a) and (4b). Therefore, Fox (2007) still requires a constraint that disfavors these LFs.

Could something be wrong with our Q_C? Bar-Lev and Fox (2017) suggest that any Q_C for (1) contains at least (2b) and (2c). With these additions, (i) by itself now licenses infinite insertions of *Exh* as in $\diamond Exh(A \vee B), \diamond Exh(Exh(A \vee B)), \diamond Exh(Exh(Exh(A \vee B)))$, and so on, none of which settles (2b) or (2c); (ii) prevents such garden paths but, as mentioned, still blocks (5). Could one do without (5) and account for the Simons reading in another way? Bar-Lev and Fox (2017) do not rely on (5) being a possible parse; for them, (1) receives the Simons reading whenever (2d) is not relevant (their n. 3). However, what they derive in that case is not $\diamond(A \wedge \neg B) \wedge \diamond(B \wedge \neg A)$, but $\diamond A \wedge \diamond B$; this fails to entail that one may take either fruit without the other.

Bar-Lev and Fox (2017) also redefine *Exh*. This gives (4a) the semantics of (3); the semantics of (3), (4b), and (5) do not change. Crucially, (4b) still lacks the free choice inferences (2b) and (2c). Thus, even Bar-Lev and Fox (2017) require constraints on *Exh* or ways to choose among LFs.

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