

Free choice disjunction in Mandarin Chinese

Free choice disjunction and *dou* Xiang (2020) observes that Mandarin disjunction in combination with the multi-functional particle *dou* expresses free choice and that the construction has a restricted distribution similar to that of FC *any* (see (1)). Xiang proposes to account for the phenomenon by hardwiring free choice into *dou* and associating the construction with a constraint that restricts it to possibility contexts (inspired by Méndez-Benito 2010 and Dayal 2013). We report observations challenging this account and offer a story where Mandarin free choice disjunction is no different from its English counterpart and the presence of free choice with disjunction-*dou* and its restricted distribution follow from *dou*'s EVEN-presupposition.

- (1) *Yuehan huozhe Mali dou keyi/*bixu jiao jichu hanyu.*
John or Mary DOU can/must teach intro Chinese

Intended: 'Both John and Mary can/must teach Intro Chinese.' (Xiang 2020, (54))

Xiang's analysis is couched in an exhaustification framework. Specifically, *dou* is taken to be a "pre-exhaustification exhaustifier" that negates the exhaustification of each sub-alternative (the underlined part in (2)), where the set of sub-alternatives of p in C "SUB(p, C)" is the set of alternatives that are not innocently excludable (Fox, 2007) and distinct from the prejacent. In the case of disjunction $p \vee q$, Xiang assumes that it triggers conjunction $p \wedge q$ and individual disjuncts p/q as alternatives (Sauerland, 2004). As the individual disjuncts are not innocently excludable, they are sub-alternatives and targeted by *dou*. Negating their pre-exhaustified version (roughly *only p/q*) gives rise (together with *dou*'s prejacent) to free choice, as in Fox (2007).

- (2) $[[dou]] = \lambda C \lambda p \lambda w : \exists q \in \text{SUB}(p, C). p(w) \wedge \forall q \in \text{SUB}(p, C) [\neg \text{EXH}_C(q)(w)]$
where $\text{SUB}(p, C) = (C - IE(p, C)) - \{p\}$

To account for its restricted distribution, Xiang further proposes that disjunction-*dou* obligatorily embeds a covert exhaustification operator (as in Méndez-Benito 2010), "which checks off the [+F] feature of the VP-internal trace of the pre-verbal disjunction". This gives rise to the LFs in (3) for the two sentences in (1). Only the LF with *can* yields a coherent meaning, because (i) the exhaustified VP roughly means *only x teaches Chinese*, (ii) as *dou* encodes free choice, it turns the moved disjunction into a conjunction, and (iii) only the result with a possibility modal, namely $\diamond(\text{only } J \text{ teaches } C) \wedge \diamond(\text{only } M \text{ teaches } C)$, is coherent.

- (3) a. LFs: $\text{dou}_C [{}_S [\text{John or Mary}] \lambda x \text{ can/must } [\text{EXH}_{C'} [{}_{\text{VP}} x_{[+F]} \text{ teach Chinese}]]]$

FC disjunction without *dou* If *dou* encodes free choice, one may expect that free choice disjunction would always accompany *dou* in Mandarin. This is however not the case. For instance, post-verbal disjunction readily accepts a free choice reading and yet *dou* is not allowed, as (4) shows. Xiang attributes this to the syntax of *dou*, according to which *dou* can only associate with pre-verbal disjunction (subjects or moved objects). To explain the free choice reading in (4), Xiang then posits a covert *dou* that has the same semantics in (2) but no such syntactic requirement. Finally, Xiang claims that pre-verbal FC disjunction requires overt *dou*, due to the principle that says "Don't do covertly what you can do overtly" (Chierchia, 1998).

- (4) *Ni (*dou) keyi du Emma huozhe War & Peace.*
You DOU can read Emma or War & Peace

'You can read Emma or War & Peace.'

We find Xiang's claim empirically inadequate. First, pre-verbal disjunction without *dou* can also have a free choice reading. The use of disjunction in (5), which is a naturally-occurring example and commonly found in legal documents, offers an illustration. In (5), an ignorance reading is unavailable and the sentence only has a free choice interpretation. Since there is no *dou* in (5) but free choice is available, this suggests a FC mechanism independent of *dou*.

- (5) *Gong-shang zhigong huozhe qi zhixi-qinshu keyi xiang weiyuanhui tichu*
 work-injured worker or his immediate-family can to committee file
shenqing.
 application

‘The injured worker or his immediate family can file an application to the committee.’

More importantly, we find that disjunction-*dou* is sensitive to discourse contexts. In particular, there are contexts where the FC reading of pre-verbal disjunction is attested and yet *dou* is forbidden, as shown in (6) (where the question sets up the context). This is unexpected under Xiang’s analysis where the sole purpose of *dou* in disjunction-*dou* is to trigger free choice.

- (6) [As an answer to: Which two persons can teach Intro Chinese?]
Yuehan huozhe Mali (#dou) keyi jiao jichu hanyu.
 John or Mary DOU can teach intro Chinese

‘John or Mary can teach Intro Chinese.’

Severing free choice from *dou* Based on the above discussion, we propose that *dou* does not encode free choice. Instead, we follow Liao (2011) and Liu (2017, 2021) in taking *dou* to be *even*-like: it is truth-conditionally vacuous but presupposes that its prejacent is the strongest (in terms of entailment or likelihood) among the relevant alternatives, as in (7).

- (7) $\llbracket dou \rrbracket = \lambda C \lambda p \lambda w : \forall q \in C [p \neq q \rightarrow p \prec q]. p(w)$, where \prec is either \prec_{likely} or \subset .

While *dou* does not encode free choice, it forces the free choice reading of a disjunction when the disjunction associates with *dou*. This is because to satisfy *dou*’s presupposition, a free choice inference needs to be added to a disjunctive prejacent for it to have a chance to entail all the relevant alternatives including the individual disjuncts (assuming that they are alternatives).

Furthermore, the restriction of disjunction-*dou* to possibility sentences is predicted: while $\diamond(p \vee q)$ with a FC inference $\diamond p \wedge \diamond q$ entails the individual disjuncts $\diamond p$ and $\diamond q$, $\square(p \vee q)$ with a corresponding FC inference $\square p \wedge \square q$ does not entail $\square p$ and $\square q$. Consequently, *dou*’s presupposition is satisfied with disjunction with \diamond only (cf. the analysis of *any* in Crnič 2019).

Next, the analysis predicts that disjunction-*dou* is sensitive to discourse contexts, in particular, to what alternatives are contextually relevant. Consider (6). The question with *which two* establishes that the contextually relevant alternatives are all of the form $\diamond p \wedge \diamond q$ (Dayal 1996). The answer in (6), even with an free choice inference, does not entail all such alternatives and thus *dou* is not allowed.

Finally, it is worth pointing out that the current proposal is compatible with several accounts of free choice, such as Fox (2007) and Aloni (2022). In the talk, we will, for concreteness, offer a compositional analysis within the exhaustification framework.

FC disjunction with *dou* The proposed account, together with Heim’s (1991) Maximize Presupposition, predicts several cases where *dou* is obligatory with free choice disjunction. One such case is illustrated in (9). Here, the question establishes that the only relevant alternatives are $\diamond(J \text{ teaches } C)$ and $\diamond(M \text{ teaches } C)$ (possibly with the conjunction as well). Since the disjunction with free choice in (9) entails these alternatives, the presupposition of *dou* is satisfied. MP then requires the obligatory presence of *dou* and correctly predicts (9).

- (8) Maximize Presupposition (MP)

Make your contribution presuppose as much as possible.

- (9) [As an answer to: Who among John can Mary can teach Intro Chinese?]
Yuehan huozhe Mali #(dou) keyi jiao jichu hanyu.
 John or Mary DOU can teach intro Chinese

‘Both John an Mary can teach Intro Chinese.’

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