Disambiguating two conditional construals: Evidence from the optionality of if

Kratzer’s restrictor analysis of conditionals treats conditionals as quantificational constructions, with a modal operator in the consequent restricted by the antecedent (Kratzer 1986, 1991). For conditionals without an overt modal, she assumes a covert epistemic necessity modal $\Box^e$, restricted by the antecedent. I discuss the consequence of this assumption, specifically, whether $\Box^e$ is needed in general. From English, we had evidence that $\Box^e$ is needed for at least some phenomena (Frank 1996, Kaufmann & Schwager 2009 a.o.). I argue that conditional construals with and without $\Box^e$ are both needed, evidenced by Mandarin conditionals with seemingly optional if-marker.

Two conditional construals

Introducing $\Box^e$ into the theory puts forward at least two possible analyses for conditionals with overtly modalized consequents, as shown in (1a). Under one analysis, the antecedent restricts the deontic modal directly, thus dubbed the Overt Conditional Operator construal (henceforth OCO-construal), cf. (1b). The second analysis assumes a covert $\Box^e$ scoping over the deontic modal, with the antecedent restricting $\Box^e$, thus dubbed the Covert Conditional Operator (CCO) construal, cf. (1c). (Terminology from Schwager 2006.)

(1) a. If jaywalking is illegal here, that guy has to pay fines. (cf. von Fintel & Iatridou 2005)
   b. Overt conditional operator: $[\text{if j.walking-is-illegal}]\Box^{deo} \text{that.guy-pays-fines}$
   c. Covert conditional operator: $[\text{if j.walking-is-illegal}]\Box^{epi} [\Box^{deo} \text{that.guy-pays-fines}]$

Prima facie, there are three options for a theory of conditionals: having (i) only OCO, (ii) only CCO, and (iii) both OCO and CCO. (i) has been dismissed convincingly by Frank (1996), Kaufmann & Schwager (2009) a.o. with evidence from conditionals whose modal in the consequent has an ordering source that depends on the content of the antecedent. For instance, in (1a), intuitively, the deontic modal have to is interpreted w.r.t. laws at the antecedent-worlds where jaywalking is illegal, regardless of what the actual laws provide. This is possible with CCO (1c) where the deontic modal is evaluated point-wise at antecedent-worlds, once the appropriate assumptions for $\Box^{epi}$ and $\Box^{deo}$ are in place. Following Kaufmann & Schwager (2009) and von Fintel & Iatridou (2005), I assume a stereotypical ordering source for $\Box^{epi}$ and a circumstantial modal base for $\Box^{deo}$. Such a CCO thus renders (1a) true just in case for each most stereotypical world $u$ (e.g. that guy is not exempt from local laws) compatible with what is known and at which jaywalking is illegal, he pays fines in all deontically best worlds $v$ from $u$ that also share the relevant facts with $u$ (e.g. he just jaywalked). Contrary to speaker intuitions, OCO (cf. (1b)) predicts (1a) to be false if jaywalking is legal in the actual world. Other phenomena can be captured by both construals, such as conditionals with modals in the consequent whose ordering source is independent of the antecedent, e.g. (2)

(2) If Max buys a car, he will have to pay car taxes. (cf. Frank 1996)

With OCO, the deontic modal is evaluated w.r.t an ordering of Max-buying-car-worlds based on the actual laws. With CCO, the sentence is true just in case for each most stereotypical world $u$ (e.g. no change of laws, Max is obliged to pay taxes) compatible with what is known and at which Max buys a car, all deontically best worlds $v$ from $u$ that share the relevant facts with $u$ (e.g. Max has a car) is such that Max pays car taxes. Both are compatible with our intuitions.

Arguments along those lines (summarized in Table 1) thus still leave open the choice between (ii) a CCO-only theory and (iii) a theory that keeps both construals. Since OCO captures only a subset of the interpretations that the CCO-construal does, one way of arguing for (iii) (and thus the necessity of having OCO in addition to CCO) would be to find a form of conditionals that allows deontic modals in the consequent to be constituted by actual laws, but not by
antecedent-laws. Only OCO, but not CCO, could account for such a form of conditionals. Unlike English (1)-(2), Mandarin provides a way of disambiguation.

**Data** Mandarin has conditionals with antecedents that are morphologically unmarked or co-occur with a clause-initial marker ruguo (often glossed as ‘if’) (Li and Thompson 1981). Although ruguo-marking has been described as optional (Chen 1988 a.o.), it makes a difference for the deontic conditionals discussed above. (3) has an overt deontic modal bixu ‘must’ in the consequent whose ordering source needs to be constituted by antecedent-laws, and leaving out ruguo causes infelicity. In contrast, if bixu requires its ordering source to be constituted by actual laws, ruguo is optional, as in (4). (Note: For ruguo-less sentences like (3b)/(4b), jiu in the second clause ensures their status as conditionals.)

(3) \{a. √ ruguo / b. ??∅\} zai zheli hengchuanmalu weifa, ta jiu bixu jiao fajin le.
   if at here jaywalk illegal he JIU must pay fine PERF
   ‘If jaywalking is illegal here, he has to pay fines.’

(4) \{a. √ ruguo / b. ∅\} xiaoming zai meiguo mai che, jiu bixu shang baoxian.
   if Ming at US buy car JIU must get insurance
   ‘If Ming buys a car in the US, he must get car insurance.’

**Analysis** The contrast between (3b) and (4b) suggests that Mandarin ruguo-less conditionals are OCO-construed. For (3a) and (4a), I propose that ruguo is an epistemic necessity modal that must occur with an overt restrictor before combining with the consequent, as in (5). Ruguo-conditionals thus instantiate CCO with \( □_{epi} \) surfacing as ruguo overtly.

(5) \[ruguo = \lambda f. \lambda g. \lambda p. \lambda w. \forall v \in O(f, g, w)[v \in p], \text{ where} \]
   \[O(f, g, w) := \{u \in \cap f(w)[v \in \cap f(w)[v \leq g(w)] u \rightarrow u \leq g(w)] v\}\]
   with the Limit Assumption
   Assuming that ruguo comes with a stereotypical ordering source (cf. Kaufmann & Schwager 2009) as mentioned earlier, the overt deontic modal in (3a) is evaluated point-wise at antecedent-worlds. With the assumption that the restriction to antecedent-worlds is inherited by the deontic modal (e.g. via a circumstantial modal base for \( □_{deo} \), vF&I 2005), this gives rise to (3a) and (4a) depending on whether the antecedent feeds into the content of \( □_{deo} \). (6) exemplifies the interpretation of (3a).

(6) \[\text{ruguo}_{g_{stere}}^{j.epi} [j.walk-is-illegal] [bixu_{f.epi}^{g_{deo}}[he-pays-fines]]\] is true in w iff all \( w' \in O(f_{epi}, g_{stere}, w) \)
   s.t. jaywalking is illegal \( w' \), all worlds \( w'' \in O(f_{circ}, g_{deo}, w') \) are such that he pays fines.

The analysis predicts correctly that ruguo blocks restriction of quantificational elements in the consequent, such as generic operators (7) and quantificational adverbs (8).

(7) \{a. ??ruguo / b. ∅\} dongtian guoqu, dongwumen jiu cong dongmian-zhong xing guolai.
   if winter pass animals JIU from hibernation-in wake come lit. ‘If the winter goes by, animals wake up from hibernation.’ (description of natural laws)

(8) \{a. ??ruguo / b. ∅\} yuehan qu, tongchang mali jiu qu.
   if John go usually Mary JIU go
   ‘If John goes, usually Mary goes.’ ≈ For most instances of J going, M goes at each instance.

**Conclusions** I argued for the view of having both the OCO- and the CCO-constructs based on the data of Mandarin deontic conditionals, an argument that could not have been made with English-only data. With more space, I will also discuss epistemic conditionals in Mandarin and show that analyzing ruguo as \( □_{epi} \) predicts correctly the contrast between ruguo- and ruguo-less conditionals when there is no overt epistemic modal in the consequent.

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