

### Unifying *if*-conditionals and unconditionals

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Unconditionals, exemplified in (1-2), have long been thought to be similar to *if*-conditionals (König 1986; Zaefferer 1990; Lin 1996; Izvorski 2000; Gawron 2001). But the question of exactly how similar, and in what way, has not been fully answered. I argue, building on Gawron 2001, that unconditionals and *if*-conditionals are both exactly the same species of adjunct, with the same external semantics. They restrict the domain of some operator, on what Partee 1991 called the Lewis-Kratzer-Heim theory of conditionals (Lewis 1975; Kratzer 1977, 1986; Heim 1982). The differences follow from the internals of different conditional clauses. Unconditionals involve interrogative morphology, which leads to an exhaustiveness presupposition, and to the introduction of alternatives into the compositional semantics. The alternatives compose in a “pointwise” way with the main clause (Hamblin 1973; Kratzer and Shimoyama 2002), resulting in an exhaustive series of domain restrictions, rather than the single domain restriction found with an *if*-conditional.

- (1) Whether or not Alfonso comes to the party, it will be fun. **Alternative Unconditional**  
 (2) Whoever comes to the party, it will be fun. **Constituent Unconditional**

Empirically, the case for unification of *if*-conditionals and unconditionals is strong. Parallels between *if*-conditionals and unconditionals come in two kinds, structural and interpretive. König 1986 and Gawron 2001 discuss a range of morphological similarities both in English and cross-linguistically. For instance, König notes a cross-linguistic pattern of similarities in the complementizers that head the two constructions, e.g. Latin *sive...sive...* Gawron shows that unconditionals support the full range of tense/aspect combinations found in *if*-conditionals; for instance the counterfactual in (3) (from Gawron’s ex. 2).

- (3) Whatever John had chosen, Mary would have been pleased with it.

On the interpretive side, nearly all discussions of unconditionals point out that they have a close paraphrase involve conjoined *if*-conditionals, as in (4).

- (4) a. Whether Alfonso dances with Joanna or Fruela, he should be careful.  
 b. If Alfonso dances with Joanna, he should be careful, and if he dances with Fruela, he should be careful.

The formal version of this parallel is most explicit in Zaefferer 1990, where the denotations for the two constructions differ only in their presuppositions; in particular, unconditionals must be exhaustive, whereas *if*-conditionals can’t be. That is, in the unconditional in (4a), the choices of dancing with Joanna and Fruela are the only ones, but in (b), they don’t need to be.

A further (new) interpretive difference between the two constructions is exemplified by the dialogue in (5). Speaker B uses the unconditional to avoid committing either way to A’s claim. I take this to involve a presupposition that the alternatives are all possible. This simply can’t be done with an *if*-conditional.

- (5) A: Alfonso is great at his job.  
 B: Whether he’s great at his job or not, we have to fire him.

Despite the close relation between the two constructions, previous analyses of unconditionals have tended to rely compositionally on construction-specific rules for the conditional-like meaning. I show that these rules can be generalized, and the differences between the conditional constructions maintained, if the interrogative nature (demonstratable by a range of tests) of unconditionals is taken seriously. In a Hamblin semantics, interrogatives denote alternatives, by way

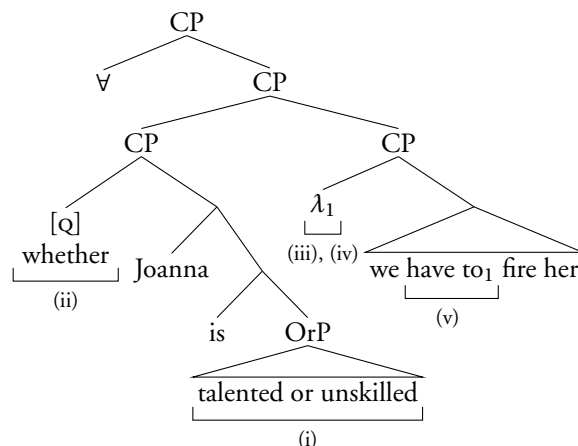
of either *wh*-items or disjunction. Alternatives can interact with the compositional process in complex and interesting ways (Kratzer and Shimoyama 2002; for disjunction and *if*-conditionals see Alonso-Ovalle 2006, 2007). Crucially, alternatives combine in a “pointwise” way – when a set of functions and a set of arguments compose, every function combines with every argument.

The interrogative morphology leads to an exhaustiveness presupposition, in the sense of what Groenendijk and Stokhof 1997 call “Hamblin’s picture”: “The possible answers to a question form an exhaustive set of mutually exclusive possibilities.” The unconditional alternatives must include every possibility. The pointwise composition of alternatives leads to composition of each alternative in turn with the operator the unconditional restricts. This gives two results: truth conditions that match the conjunction of a sequence of conditionals, and a presupposition that each of the alternatives is non-empty. This second point follows on the assumption that modals include a non-triviality presupposition – which appears multiple times due to the pointwise composition.

The unification result follows on a range of assumptions about the composition of conditionals. I assume here that all conditionals are correlative adjuncts that bind domain variables (von Stechow 1994; Bhatt and Pancheva 2006); these domain variables constrain the domain of a modal or other operator. Crucially, the composition of the conditional adjunct with the main clause is not “alternative-aware”, and so happens in a pointwise way. Each alternative introduced by the unconditional forms a restrictor for the modal in turn. The end result is a set of alternatives, each corresponding to a conditionalized (modal) proposition. These alternatives are then collected by a default Hamblin universal operator (cf. Menéndez-Benito 2006 §3.7). The semantics of the entire structure is summarized in (6) (focusing on alternative conditionals), and the result of a computation in (7) ( $f_c$  is a contextually provided domain).

(6) **Anatomy of an alternative unconditional**

- i. Disjunction introduces alternatives.
- ii. The question operator introduces an exhaustiveness presupposition.
- iii. A conditional adjunct (whatever its content) restricts the domain of an operator.
- iv. The adjunct composes pointwise with the main clause via pointwise FA – one modal claim for each alternative.
- v. The modal imposes an existence presupposition on its domain – leading to a distribution presupposition.



(7)  $\llbracket \text{Whether Joanna is talented or unskilled, we have to fire her} \rrbracket^{g,c} =$

$$\left\{ \lambda w. \left( \begin{array}{l} (\forall w' \in (\llbracket \text{J. is talented} \rrbracket \cap f_c(w)) : \llbracket \text{we fire her} \rrbracket (w')) \\ \wedge (\forall w' \in (\llbracket \text{J. is unskilled} \rrbracket \cap f_c(w)) : \llbracket \text{we fire her} \rrbracket (w')) \end{array} \right) \right\}$$

defined for  $w$  only if: (i)  $\llbracket \text{J. is talented} \rrbracket \cap f_c(w) \neq \emptyset$  and  $\llbracket \text{J. is unskilled} \rrbracket \cap f_c(w) \neq \emptyset$   
(ii) Every world in  $f_c(w)$  is either in  $\llbracket \text{J. is talented} \rrbracket$  or  $\llbracket \text{J. is unskilled} \rrbracket$

The end result is that whether an *if*-clause or an unconditional is adjoined, the semantics for conditionalizing domain restriction works the same. This leads to a significantly more general view of the Lewis-Kratzer-Heim theory of conditionals, and invites us to wonder how many other adjuncts might be conditional adjuncts in this sense.