Handout 15: Lycan, I

Philosophy 691: Conditionals
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THE BASIC IDEA

1. The syntactic claim: 'if' is a subordinating conjunction (like 'when' and 'because'), not a coordinating conjunction (like 'and' and 'or'). 'If'-clauses are relative clauses.
2. The semantic claim: 'if'-clauses quantify over 'events' (or 'circumstances' or 'situations').

THE SEMANTIC CLAIM

1. In English: 'If A then C' (='C if A') is true iff in any event (in some class $\mathcal{R}$) in which A, C.

   In logic: [. . .] iff $\forall e[e \in \mathcal{R}][\text{In}(e, A) \supset \text{In}(e, C)]$ ('$\text{In}(e, X)$' means 'In event e, X'.)

2. What are 'events'?

   > Ordinary English represents events or circumstances as possible states of affairs, but as local goings on that are much smaller than entire possible worlds or even world-futures or world-slices; we speak as if there are a number of events that will materialize, not just one. (Worlds and world-futures may be conceived as being large aggregates or heaps of event, or, if one likes, events/circumstances may be formalized as intersections of worlds or sets of worlds.)

   Events are not 'maximal'. For many X's, it will neither be true that $\text{In}(e, X)$ nor that $\text{In}(e, \neg X)$. For a brief while I was 'worried' that this meant Lycan had to deny bivalence, but this is only so if he accepts that $\neg\text{In}(e, X)$ implies $\text{In}(e, \neg X)$, which I am certain he would deny. An event's not containing X is not tantamount to its containing $\neg X$.

   Still, Lycan says that events "are presumed closed under deduction and so contain all tautologies" (fn. 6, p. 20). So when e is a possible event, $\text{In}(e, X \vee \neg X)$ is true for any X. Lycan employs impossible events to handle conditionals with impossible antecedents. Presumably impossible events are not closed under deduction, since then they would contain every proposition and be useless for carving out a space for false conditionals with impossible antecedents.

3. Why does $\mathcal{R}$ matter?

   Suppose we countenance merely possible events and leave the quantifier unrestricted. Then 'If A then C' would collapse into $A \strictif C$, for it would be true only if there were no possible events in which $A \,\&\, \neg C$.

   Suppose instead that $\mathcal{R}$ = the class of all actual events. Then 'If A then C' would be true iff either there is no actual event in which A or in all actual events C; i.e., whenever $\neg A$ is true or every actual event contains C. If events were possible worlds, this would be equivalent to the material conditional. Given the 'non-maximal' nature of events, it's a depraved cousin of the material conditional: true iff A is false or C is necessary. (Well, perhaps not quite: some contingent propositions may be contained by every actual event; e.g., "The actual world exists".)

4. So what is in $\mathcal{R}$? Lycan: members of $\mathcal{R}$ are *real* and *relevant* to the speaker. An initial characterization of 'real':

   > Merely nomological possibilities do not count, nor do possibilities that would not have occurred to the utterer. For a possibility to be 'real', the utterer must have it at least tacitly in mind as a live prospect (19).

   Lycan's initial argument for why 'relevance' is needed is somewhat confusing (pp. 19-20). It turns on his semantics for 'C unless A' and 'C even if A', which I think there is independent reason to doubt (more on that later). Here are the proposed relevance restrictions:

   > *Moderate Relevance Restriction.* For all $e \in \mathcal{R}$, either $\text{In}(e, A)$ or $\text{In}(e, \neg A)$ or $\text{In}(e, C)$ or $\text{In}(e, \neg C)$.
   >
   > *Strict Relevance Restriction.* For all $e \in \mathcal{R}$, either $\text{In}(e, A)$ or $\text{In}(e, \neg A)$.

   ~~The Strict Requirement makes it easier for 'If A then C' to be false. Suppose that $\text{In}(e, A)$ but neither $\text{In}(e, C)$ nor $\text{In}(e, \neg C)$. If $e \in \mathcal{R}$, then 'If A, then C' is false, because $\text{In}(e, A)$ & $\neg\text{In}(e, C)$. The Strict Requirement allows e into $\mathcal{R}$, while the Moderate Requirement does not. Lycan appears to think that sometimes the restriction is Strict, and sometimes it's Moderate.~~

   Corrected 11/20: Lycan says that the Strict Requirement would make it "easier for a conditional to be true, because it would shrink the domain of the governing universal quantifier" (23): i.e., if $\text{In}(e, C)$ or $\text{In}(e, \neg C)$ but neither $\text{In}(e, A)$ nor $\text{In}(e, \neg A)$, the Strict Requirement keeps e out of $\mathcal{R}$, but the Moderate Requirement does not. However, note that allowing such an e into $\mathcal{R}$ would never turn a true 'In A then C' into a false one, since $\neg(\text{In}(e, A) \vee \text{In}(e, \neg A))$ implies $\neg\text{In}(e, A)$, and so for any such e, $(\text{In}(e, A) \supset \text{In}(e, C))$ is true. Exercise: find a case where the Strict Restriction *would* make a difference, using Lycan's semantics for the other conditional constructions on page 18.

5. The relevance and reality restrictions keep some e's out of $\mathcal{R}$. Lycan also discusses some rules that force certain events into $\mathcal{R}$. He endorses what he calls the "Antecedent Requirement" (p. 28):

   > *Antecedent Requirement.* For some $e \in \mathcal{R}$, $\text{In}(e, A)$.

   This holds the key to Lycan's claim that Antecedent Strengthening and Transitivity are invalid; more below. He also discusses, though does not endorse, a corresponding Consequent Requirement. I was confused by his discussion; more when we talk about Contraposition.

   Question: should $\mathcal{R}$ always contain all actual events that satisfy the relevance restriction? Lycan calls this proposal the *Rctuality Requirement.* A case to test the Reality Requirement:

   > Suppose Marcia says, 'I will call you on Monday if I get home before 10:00,' and she does get home at 9:30, but (unforeseeably) the Venusians have landed at 9:00 and destroyed all telephones. Was Marcia's utterance true or false on that occasion?

   If you say 'true' then you must reject the Reality Requirement; if you accept the Reality Requirement you must say 'false'. I like the Reality Requirement and am inclined to say 'false' here, though I suppose I could be talked out of the latter. But the Big Consequence of rejecting the Reality Requirement is that doing so appears to invalidate Modus Ponens. Suppose that in actuality there's an A & $\neg C$ event; call this event α. If $\alpha \notin \mathcal{R}$, then 'If A then C' might still be true, for all the A-events in $\mathcal{R}$ might be C-events. Given the actuality of α, A is true and C is false. So Modus Ponens appears to fail. As we'll see, Lycan rejects the Reality Requirement and endorses this consequence of doing so.

6. Lycan's semantics avoids the "paradoxes of material implication":

   (a) C does not imply that if A then C. Why not? Because the truth of C does not imply that all of the A events in $\mathcal{R}$ are C events.

   (b) $\neg A$ does not imply that if A then C, for the same reason.

(c) $\neg$(If A then C) does not imply $A \,\&\, \neg C$, for there may be events $e \in \mathcal{R}$ such that $\text{In}(e, A)$ and $\neg\text{In}(e, C)$ even though A is false or C is true.

7. Lycan says that his semantics also respects the "Stalnaker invalidities"; i.e., the invalidity of Antecedent Strengthening and Transitivity:

   (d) If A then C does not imply that if $A \,\&\, B$ then C. Why not? Because the first conditional can be true even if no $A \,\&\, B$ event is in $\mathcal{R}$, but given the Antecedent Requirement the second cannot.

   (e) If Antecedent Strengthening is invalid, so is Transitivity (i.e., the inference from 'If A then B' and 'If B then C' to 'If A then C'), for reasons we've already seen (Handout 8, p. 3).

   Is Lycan right that his semantics invalidates these arguments? If the mere possibility of mid-argument quantifier domain restriction shifts were enough to render a quantifier-involving argument invalid, then we'd have to count arguments like "Some of the beer is in the fridge; therefore, not all of the beer is on the counter" as invalid. In general an argument with quantifiers in the premises and conclusion will count as valid iff the premises necessitate the conclusion *assuming* that no domain shifts occur. And Antecedent Strengthening and Transitivity are, given Lycan's semantics, valid by that criterion (I *think*).

   What the Antecedent Requirement does is *force* a domain shift in the conclusion of the above arguments. Given that effect, no true instance of the premise of Antecedent Strengthening guarantees a true conclusion. This is not quite invalidity. But to my mind, this respects the intuitive data better than an account which simply invalidates the arguments (as, e.g., Stalnaker's semantics do): these argument schemas don't seem to fail in the same catastrophic way that the paradoxes of material implication do.

8. Contraposition. Lycan's semantics come close to validating Contraposition. Suppose that 'If A then C' is true. Then all the A-events in $\mathcal{R}$ are C-events. ~~Doesn't that imply that all of the $\neg C$-events in $\mathcal{R}$ are $\neg A$-events, and hence that 'If $\neg C$ then $\neg A$' is true?~~ *Corrected 11/20:* This implies that none of the $\neg C$-events in $\mathcal{R}$ are A-events. But Contraposition may still fail if there are $\neg C$-events in $\mathcal{R}$ that are neither A-events nor $\neg A$-events: for any such event, $\neg(\text{In}(e, \neg C) \supset \neg\text{In}(e, \neg A))$, and so if $\mathcal{R}$ includes them 'If A then C' may be true while 'If $\neg C$ then $\neg A$' is false. The Moderate Relevance restriction allows such events in $\mathcal{R}$.

   Also, if there are no $\neg C$-events in $\mathcal{R}$, the Antecedent Requirement will force us to add some $\neg C$-events to $\mathcal{R}$ when evaluating 'If $\neg C$ then $\neg A$'. So Contraposition might fail in the same way Antecedent Strengthening and Transitivity do when 'If A then C' is true but all $e \in \mathcal{R}$ are such that $\text{In}(e, C)$. Given Lycan's semantics for 'even if'—'C even if A' is true iff $\forall e[e \in \mathcal{R}][\text{In}(e, C)]$—any true non-contraposing conditional should be expressible as an 'even if'. (And that seems right, doesn't it?) Lycan calls true conditionals for which there is no $e \in \mathcal{R}$ such that $\text{In}(e, \neg C)$ 'weak' conditionals.