CONDITIONALS, NON-MONOTICITY, AND MODUS PONENS

ABSTRACT

It is widely recognized that our everyday reasoning with *indiciative* conditionals calls for a *non-monotonic* logic. For example, somebody who knows just that Anna or Bill went to the party ($A \vee B$) *should* also hold (or go on to infer) that Bill went if Anna didn't ($\neg A \rightarrow B$); but, somebody who knows $A \vee B$ *because* they know A, *should not* also hold (or go on to infer) $\neg A \rightarrow B$. Thus, any appropriate logic should validate inference pattern (P1) but not (P2):

(P1) $A \vee B \therefore \neg A \rightarrow B$

(P2) $A, A \vee B \therefore \neg A \rightarrow B$

Accordingly, despite controversy about the *content* of indicative conditionals, including dispute about whether they have truth values or express propositions *at all*, something like Adams' (1975 or Jackson's (1979) probabilistic account of *assertibility* is generally thought to yield a suitable logic. This logic is indeed non-monotonic.

By contrast, the case for a non-monotonic logic for *counterfactuals* (*subjunctive* conditionals) is not obvious. For, the counterfactual counterpart of (P1):

(P1)* $A \vee B \therefore \neg A \Box\!\!\rightarrow B$

is not compelling to begin with: intuitively, knowledge that Anna or Bill went to the party does *not* license the conclusion that Bill *would have* gone if Anna hadn't. Moreover, the most popular approach to counterfactuals, the Stalnaker-Lewis (SL-) approach (Stalnaker 1968; Lewis 1973), attempts to accommodate our intuitions about counterfactuals in a way that preserves monoticity.

My primary aim in this paper is to show that counterfactuals, and conditionals generally, *do* demand a non-monotonic logic. But I shall also make some suggestions regarding *modus*

ponens and the *semantic content* of conditionals. One claim I hope to defend is that the apparent validity of *modus ponens* actually stems from *pragmatic* factors, including *speaker-meaning*, rather than the semantics.

The puzzle underpinning my stance emerges from consideration of the following two compelling views about conditionals (whether indicative or subjunctive):

> *Neutrality*
> One may legitimately (reasonably) affirm a conditional while being neutral (undecided, ignorant) about the truth of the antecedent.
>
> *Cotenability*
> One may legitimately (reasonably) affirm a pair of conditionals whose consequents are incompatible. (Call such a pair a *contrary pair*).

Neutrality is borne out by conditionals such as (A1)–(A4):

(A1) If this paper were published in a top journal, it would make me famous.
(A2) If Maria had wanted to go to the party, she would have gone.
(A3) If Alf was the burglar, we'll find his fingerprints in the room.
(A4) If United win the league, Fergie will continue as their manager.

Cotenability is borne out by the following companions to the above conditionals:

(B1) If this paper were published in an obscure journal, I would remain unknown.
(B2) If Maria had been baby-sitting, she would not have gone to the party.
(B3) If Sid was the burglar, we won't find *any* fingerprints in the room.
(B4) If Chelsea win the league, United will get a new manager.

Intuitively, there would be nothing improper about affirming one of the A-conditionals while also affirming the corresponding B-conditional. But, note that the antecedents of each AB-pair, even if not strictly incompatible, are naturally taken to exclude each other. So, while one may be neutral as regards the antecedents considered individually, one will not be neutral about the *conjunction* of the antecedents: in each case, one will regard the conjunction as *false*.

This raises the following, critical question: could one legitimately affirm a contrary pair of conditionals *while remaining neutral about the truth of the* <u>*conjunction*</u> *of the antecedents*? That is, could it ever be reasonable for one to affirm conditionals of the form ‘A > C’ and ‘B > C*’, where C* is a proposition incompatible with C, while being undecided, and remaining undecided, about ‘A & B’? I’ll call this the *Conjunction Question*. It generates the neglected puzzle I have alluded to: for, both ‘Yes’ and ‘No’ answers pose problems.

It is not difficult to think of conditionals to pair with (A1)–(A4) in support of a *Yes*-answer, (C1)–(C4) for example:

- (C1) If the central claims of this paper were promptly refuted, it would not make me famous.
- (C2) If nobody had offered Maria a lift to the party, she would not have gone.
- (C3) If Sid was the mastermind, we won’t find *any* fingerprints in the room.
- (C4) If United’s owners refuse to buy new players, Fergie will resign.

Further support for a *Yes*-answer comes from the following widely held view (SA) that strengthening the antecedent of a true conditional need not preserve truth. Many of the examples that supporters of FSA provide, examples where a conditional A > C appears true but a conditional (A & B) > C appears false, are such that (A & B) > ¬C is intuitively true.

The trouble with the ‘Yes’-answer, however, is that it commits one to denying *modus ponens* (MP) or the *monoticity* of the accompanying logic! For, given monoticity, (MP) clearly licences the inference from contrary pairs A > C and B > C* to the denial of the conjunction of the antecedents, i.e. to ¬(A & B).

The ‘No’-camp has a different problem. While there may be a case for denying that we can hold *both* members of a contrary pair, it does seem that holding *either* one (*without* the other) is permissible. But, then, the ‘No’-camp must endorse a logic on which holding A > C is reasonable, holding B > C* is also reasonable, but holding the conjunction is not. Again, a non-monotonic logic seems called for.