

“Import-Export and ‘And’” is a thoughtfully executed and clearly written paper whose results took me completely by surprise.

Allan Gibbard gave a simple and unsettling argument that, given background assumptions that appear entirely innocuous, there can be no conditional strictly stronger than material implication that validates modus ponens and exportation. The result is disturbing, because it appears that the English indicative conditional is precisely the sort of operator Gibbard’s theorem forbids. Perhaps the most popular response to this circumstance has been to concede that, semantically, the English indicative conditional is material implication, contending that the discrepancies can be accounted for in pragmatic terms. A second popular response has to reject exportation (along with its converse, importation), despite the fact that no convincing counterexamples are known. A hardy few have followed the third route, rejecting modus ponens.

The present paper raises additional problems for the beleaguered minority. It appears that even relinquishing modus ponens isn’t enough to save exportation, Its defense is likely to disrupt the classical logic of “and.”

The minority view received a powerful but indirect boost from the highly influential work of Angelika Kratzer. Kratzer dismisses the whole inquiry as misguided, since the English “if..., then” construction isn’t a sentential connective at all. Nonetheless, Justin Khoo has argued convincingly (I, at least, was convinced, although I doubt Kratzer was) that it is meaningful and useful to ask which of the inferences sanctioned by traditional sentential calculus survive (at the sentential level, not the propositional level) the distortions caused by flawed symbolizations. When I read Kratzer’s paper, I read it lazily, thinking through the status of the import-export principle only for the simplest case, in which the sentences symbolized by “p,” “q,” and “r” are conditional-free. For that simple case, the derivation of the import-export principle is so smooth that I didn’t give the matter a further thought. There was some funny business going on in the superscripts, but it didn’t seem to make much difference. It made no difference at all to conditional-free cases. Had I been more alert, I would have been alerted to the existence of a problem by a footnote in Khoo and Mandelkern’s forthcoming (but already available online) *Mind* paper, but they make the problem with “and” look like a quirk of a particular way of working out small details. So I was surprised to learn from this paper that there is a serious problem here.

The conclusions reached here are not ironclad the way Gibbard’s result is. Gibbard proves a mathematical theorem that no conditional stronger than material implication combines modus ponens with exportation. There is no such theorem here. There is no proof that it isn’t possible to maintain a semantic separation of the English conditional from the material conditional while upholding import-export and full classical logic, including the classical treatment “and.” Instead, there are arguments that doing so would be costly, and reasons to think that it is not worth the cost.

The authors (I use the plural to avoid guessing gender) survey the most prominent accounts that uphold import-export while distinguishing the conditional from “ \supset ,” and they find that, with one exception, the accounts require a nonclassical treatment of “and.” The exception is McGee’s theory, which has problems of its own I’ll come to in a minute.

McGee excepted, the theories surveyed all regard p as equivalent to $\lceil p \wedge (\neg p > q) \rceil$. To me, this seems like a devastating consequence. There are numerous examples that show that English speakers are sometimes unwilling to assert or accept a conclusion of the form $\lceil \neg p > q \rceil$ in spite of accepting p . These same examples show speakers' unwillingness to conclude $\lceil p \wedge (\neg p > q) \rceil$. I believe that it will snow tomorrow. I don't believe that it will snow tomorrow and, if it doesn't, the weather is being manipulated by Martians in collusion with the deep state. If I induce the teller to give me money by handing her a note that reads, "You will fill my satchel with \$100 bills, and if you don't I'll blow up the bank," I can't claim afterward that I was only making a prediction, not a threat.

Conditionals with conditional antecedents occur naturally in English, but they appear so infrequently that it's hard to get a feel for what is going on with them. The discussion turns on still more complicated sentences of the form $\lceil p > ((\neg p > q) > r) \rceil$. These are supposed, by the theories other than McGee's, to be equivalent to $\lceil p > r \rceil$. I doubt it, but it's hard to put my doubts to the test, because it's difficult to think of intelligible English sentences of the required form. An example or two would be really helpful.

That is my one complaint about the paper. It would be nice if it had some examples, connecting the formalism with English.

The problem with McGee's theory is that it conflicts with natural, highly plausible principles governing reasoning with conditionals. Common sense doesn't find the principles irresistible, the way it finds modus ponens and conjunction elimination irresistible, but it does find them highly credible.

The authors have shown that, even for people willing to renounce modus ponens, upholding import-export in full generality occasions myriad difficulties. Their proposed solution is to restrict import-export, so that the q in $\lceil p > (q > r) \rceil$ is required to be conditional-free. At first, the inelegance of this proposal offended me. It sets aside the counterexamples to our favored theory without saying anything about what's wrong with the excluded cases other than that they violate our favored theory. On second thought, I am more sanguine. Nobody thinks an analysis at the level of sentential calculus can fully explain which inferences are valid and which aren't. For Kratzer, the analyses logic-book symbolizations give us completely bollix up the logic of an argument. For traditional logicians, the textbook symbolizations don't get things completely wrong, but they oversimplify. Either way, a thorough understanding will require a deeper level of understanding than logic-book symbolizations give us. The caveat that q has to be conditional-free is a warning sign: This is as far as an analysis at the level of sentential calculus will take us. A thorough understanding will require an account of what's going on with the forbidden cases, and that will require a level of analysis deeper than sentential calculus can provide.

There is no deep theoretical motivation for import-export. The only reason for wanting to accept it is that we've looked at lots of examples, and in all of them the principle has been upheld. It's an inductive generalization. Here's the crucial thing: In all the examples, q has been conditional-free. We shouldn't presume that the principle continues to hold when q is a

conditional without looking at some cases, and when we look at cases, the principle appears shaky at best. The attractive feature of import-export is that it has held up in many, many cases, all of them cases in which q is conditional-free. The restricted version still has that attractive feature.

The assumption that, for present concerns, what goes for indicative conditionals goes also for subjunctives was made too quickly. David Etlin's example: "If the match had ignited and it had been wet, it would have ignited" versus, "If the match had ignited, then if it had been wet, it would have ignited."

Page 5, line 14 should read, "McGee modifies the theory as follows, so that it validates IE, not MP."

Page 6, line 47 should read, "as long as q is conditional-free."

This is a splendid paper. I am sure that readers of *PPR* who are interested in conditionals will find it worth their time.