Analyzing epistemic \textit{must} like deontic \textit{must} derives indirectness requirement

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Universal epistemic modals such as \textit{must} convey indirect evidence (Karttunen (1972)). \textit{It must be raining} is only okay if we see umbrellas, not if we’re experiencing the downpour. Previous analyses of epistemic \textit{must} struggle to derive this requirement. The epistemic must of Kratzer (1981) predicts indirectness, but in a way that conflates indirectly supported claims with logically weak ones, as von Fintel & Gillies (2010) point out. Instead, vF & G make a convincing case for a logically strong \textit{must}, but only stipulate that the evidence must be indirect.

To resolve this problem, I treat epistemic \textit{must} parallel to deontic \textit{must} (e.g. \textit{you must not litter}) because both modal forces crucially invoke rules of some sort, whether normative or descriptive. Further unifying the two \textit{musts}, since it is not clear how to distinguish previous analyses’ epistemic modal base from deontic modals’ circumstantial one, I instead assign both epistemic and deontic \textit{must} a modal base consisting of the contextually relevant facts, leaving subtler differences to context. Like vF & G’s strong \textit{must}, both epistemic and deontic \textit{must} quantify universally over the part of the modal base chosen by this ordering source. Epistemic and deontic \textit{must} both quantify over worlds compatible with the circumstances (modal base) and select the worlds compatible with some set of rules (ordering source), either normative or descriptive.

This analysis derives \textit{must}’s requirement for indirect evidence. Epistemic \textit{must} involves moving from facts about this particular world to a claim about all worlds consistent with those facts, invoking a rule – a process which is inherently indirect. This ordering source of descriptive generalizations, parallel to deontic \textit{must}, leads epistemic \textit{must} to invoke indirect evidence.

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References

