Epistemic modality encodes cognitive effort

It is uncontroversial that epistemic necessity modals (ENMs) like English *must* in some way involve an inferential process: intuitively, a statement of the form *must-φ* indicates that the speaker *s* has concluded φ from a certain set of premises, i.e. salient pieces of evidence. Consider e.g. (1):

(1) Where is Fran? It's summer break, her car is gone, the shutters on her windows are closed, I know that Fran was planning a trip. Me:
a. *Fran must have left town.*

Yet the exact nature of (i), the relation between ENMs (and arguably other modals or evidentials) and the presumed inferential process, and (consequently) (ii), the implementation are still a matter of debate.

In the first part of my talk, I motivate the hypothesis that ENMs are sensitive to reasoning effort. I start by discussing recent accounts of ENMs and show that while all of them point out crucial empirical contrasts, they suggest licensing requirements (indirect evidence, lack of knowledge, salient argument) that fail to generalize, or are not fine grained enough to explain certain subtle contrasts. Contrary to that, I suggest that the licensing of ENMs depends on the relative complexity of the inference a speaker has to conduct to arrive at φ. I sketch an implementation that is based on the idea of updating a speaker's belief state in a step-wise fashion.

The second part of my talk (very sketchily) explores the possibility to test this hypothesis experimentally.