THEORETICAL BACKGROUND

What are propositional attitudes?

- Sentences that express the relation (attitude) an agent has with respect to a proposition.

- These can be relations of belief, disbelief, doubt, concern, etc.
THEORETICAL BACKGROUND

- E.g.:
  - Lois Lane believes that [Superman is strong].
  - Lois Lane believes that [Clack Kent is not strong].

- Is Lois being inconsistent/contradictory?
  - Intuitively, we want to say “no”. She is just missing something...
THEORETICAL BACKGROUND

Crucially,

- Lois Lane does not know that [Superman is Clark Kent].
THEORETICAL BACKGROUND

- Mark Richard (1990)

- Why this theory?
  - It takes into account both the *what* is said and the *how* it is said.
THEORETICAL BACKGROUND

- Concept of RAM (Russellian Annotated Matrix).
- Let’s just call them “beliefs”.
  - Mary believes that [London is pretty].
  - Mary believes that [Londres is not pretty].
    - `<< ‘is not pretty’, not being pretty>, < ‘Londres’, Londres>>`
THEORETICAL BACKGROUND

Unless Mary has the following RAM in her set of beliefs, she cannot really be accused of being inconsistent:

- Mary believes that [London is Londres].
IMPLEMENTATION

Based on this theory, my intention was to create a belief-checker based on two main functions:

- **Know**: a function that takes a list of belief-agent pairs and adds them to a set (think of it as the Conversational Context).

- **Believe**: a function that takes a belief-agent pair and checks whether it can be found in the Conversational Context. Returns a Boolean.
IMPLEMENTATION

Most importantly, I wanted my *believe* function to not only check for *direct* membership, but also for it to make inferences of the following kind:

- The set includes:
  - Mary believes that `< < ‘is pretty’, being pretty > ,  
    `< ‘London’, London > >`
  - Mary believes that `< < ‘is’, identity > ,  `< < ‘London’, London > ,  
    `< ‘Londres’, Londres> >`

- Therefore, infer:
  - Mary believes that `< < ‘is pretty’, being pretty > ,  
    `< ‘Londres’, Londres> >`