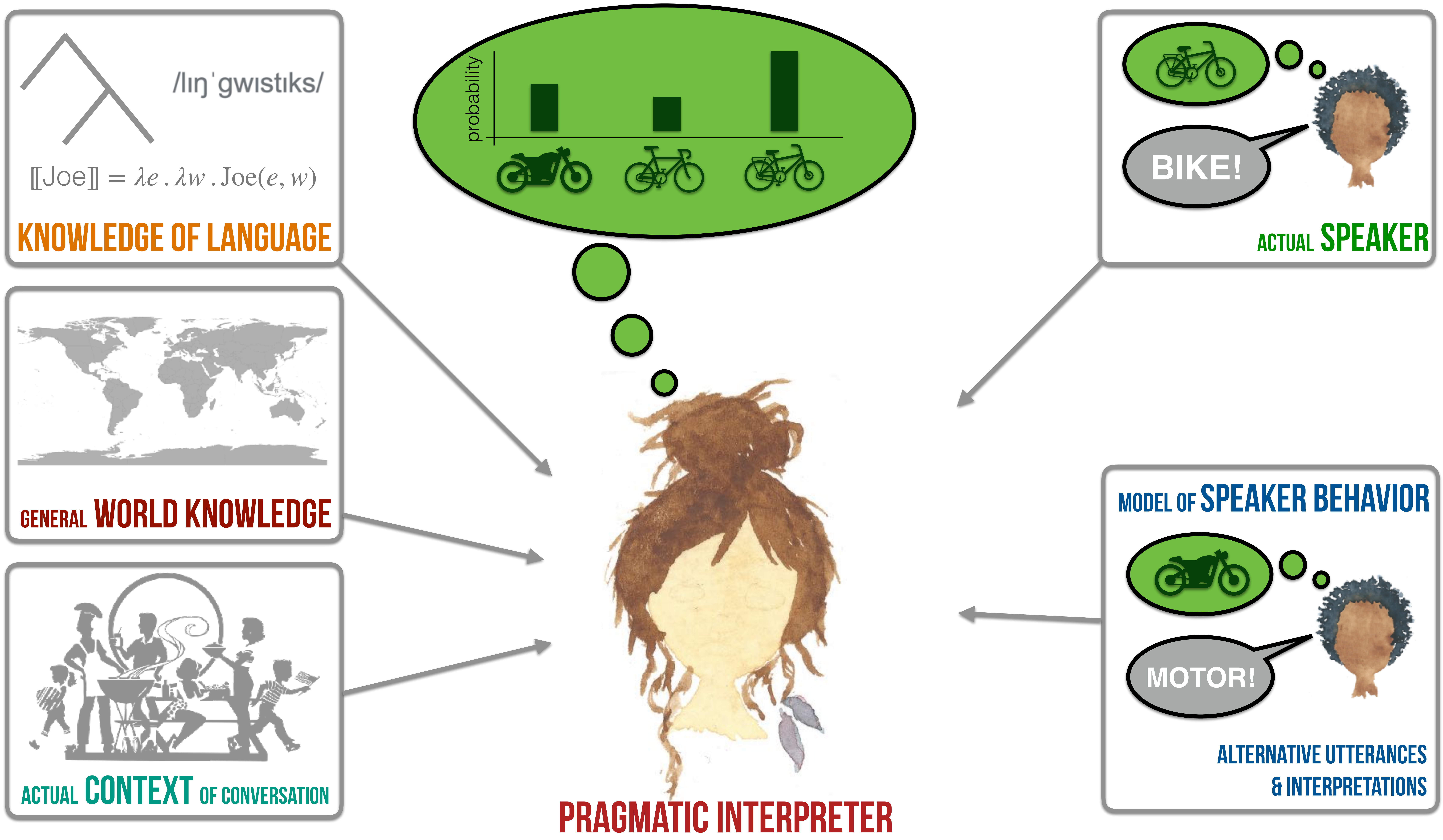
Computational Pragmatics

Non-literal interpretation (chapter III of problang.org)

Sessions 6+7



/lɪŋˈgwɪstɪks/
⟦Joe⟧ = $\lambda e \,.\, \lambda w \,.\, \mathrm{Joe}(e, w)$
KNOWLEDGE OF LANGUAGE
GENERAL WORLD KNOWLEDGE
ACTUAL CONTEXT OF CONVERSATION
probability
PRAGMATIC INTERPRETER
BIKE!
ACTUAL SPEAKER
MODEL OF SPEAKER BEHAVIOR
MOTOR!
ALTERNATIVE UTTERANCES
& INTERPRETATIONS

Rational Speech Act model

severe truth-abidance

speakers never chose false utterances

listeners completely rule out literally false interpretations

L_0

LITERAL INTERPRETATION STRATEGIC DEPTH 0

$$P_{lit}(s \mid u) = P(s \mid [\![u]\!])$$

S_1

GRICEAN SPEAKER STRATEGIC DEPTH 1

$$P_S(u \mid s) \propto \exp\left(\alpha \left(\log P_{lit}(s \mid u) - C(u)\right)\right)$$

L_1

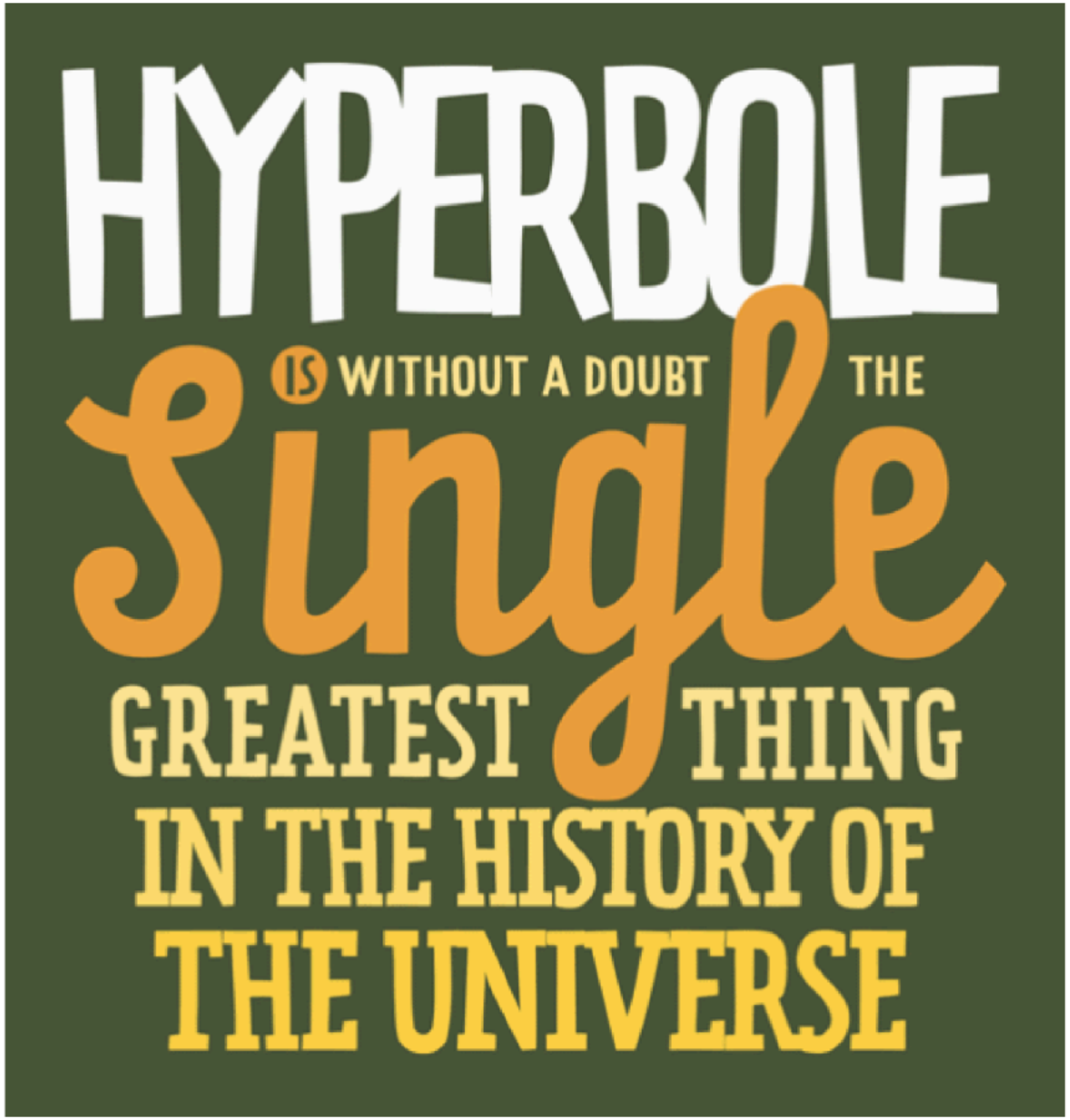
GRICEAN INTERPRETATION STRATEGIC DEPTH 2

$$P_L(s \mid u) \propto P(s)\, P_S(u \mid s)$$

non-literal interpretation

Hyperbole

the use of exaggeration to create emphasis or convey strong emotional feeling



Loose talk

allowable imprecision in the use of (literally) precise expressions

failure of the metric system

Why did the metric system not catch on [in the US]? There are many reasons. But one that cannot be taken lightly is that certain well-intended public relation attempts intended to familiarize the American people with the metric system just did not work. Since the Metric Conversion Act, road distances in National Parks are often given in miles and kilometers. And since then, travelers encounter signs like the following one:

Eagle Pass

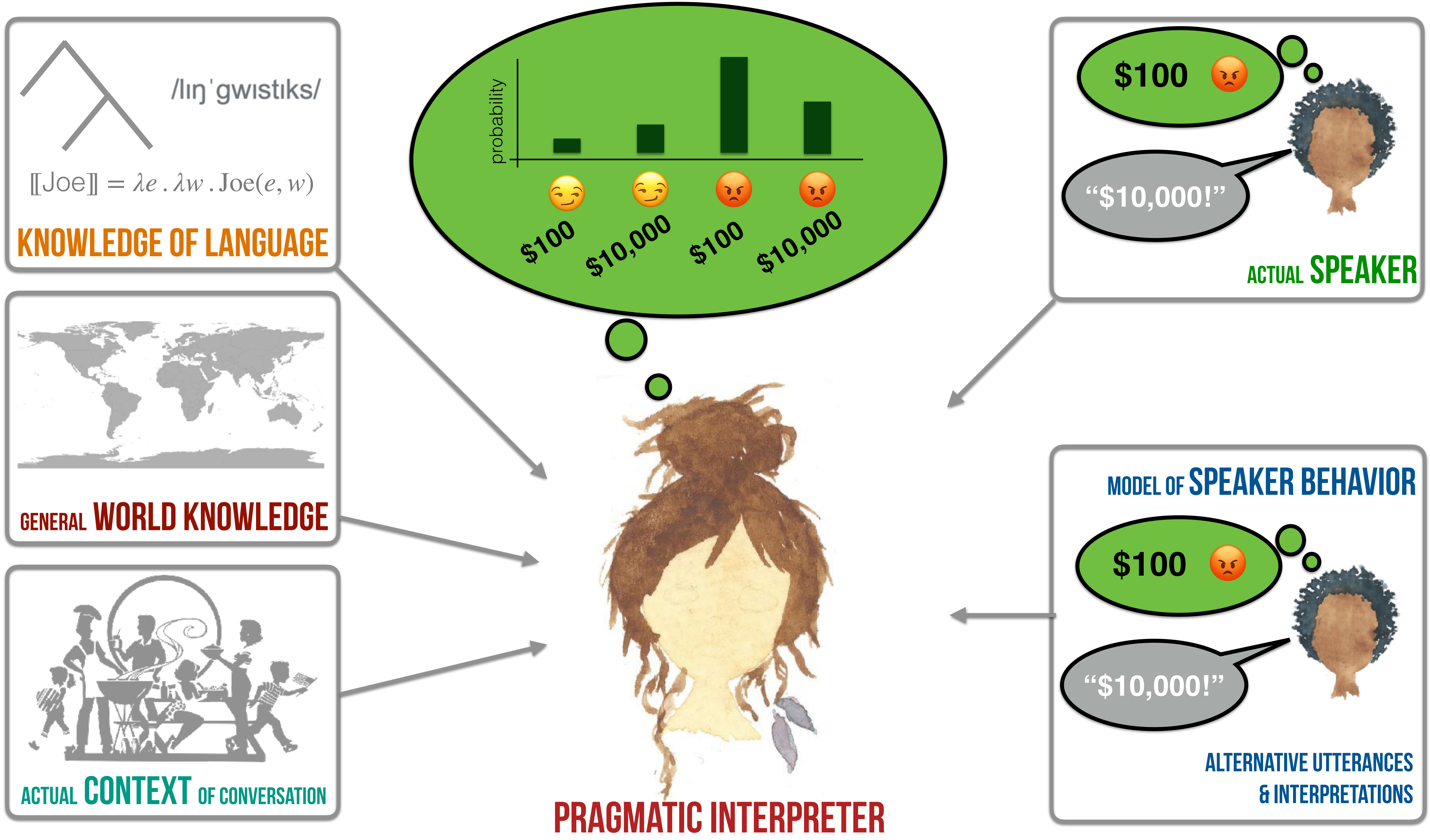
7 miles

11.265 km

It is not hard to see why road signs like [this] suggest that the metric system is something for intellectuals, or “rocket scientists”, far too unwieldy for everyday purposes.

Krifka (2002)

joint inference of state & affect


/lɪŋˈgwɪstɪks/
[[Joe]] = λe . λw . Joe(e, w)
KNOWLEDGE OF LANGUAGE
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ACTUAL CONTEXT OF CONVERSATION
probability
$100
$10,000
$100
$10,000
$100
"$10,000!"
ACTUAL SPEAKER
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ALTERNATIVE UTTERANCES
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PRAGMATIC INTERPRETER