

Breaking the Language Barrier

A Kripke-style model for unifying linguistic and non-linguistic reasoning

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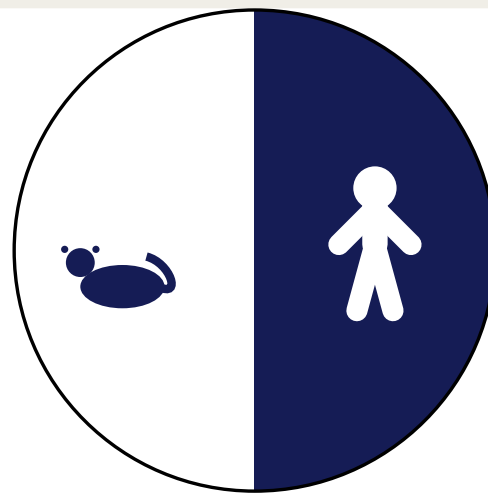
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To what extent is language the source of human intelligence?

Research on animal and insect cognition shows that animals and insects have

- problem-solving abilities
- social complexity
- numerical abilities

(Godfrey-Smith 2020, Vincenzo 2023)



Studies in theoretical linguistics claim that language is the main source of

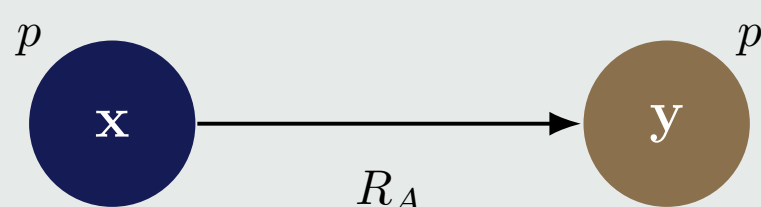
- human creativity
- social complexity
- mathematical capacity

(Chomsky 2005; Hinzen 2006)

To answer this question, we need a theoretical framework capable of unifying linguistic and non-linguistic reasoning.

Classical Model

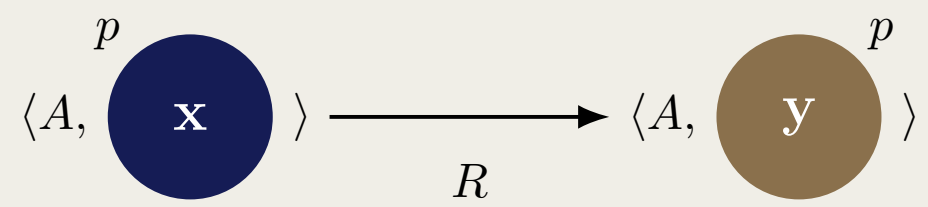
Kripke 1959, Hintikka 1962



Possible worlds (x, y) represent different possibilities. Agent A knows proposition p only if p is true in every possible world R -accessible to A . There are multiple, indexed accessibility relations R (unique for each individual).

New Model

Stalnaker 2008, 2014



There is only one accessibility relation R . The believer is specified in the relata (the elements related by R). There is a one-to-one correspondence between centred and uncentred possible worlds.

Advantages of the New Model

- ✓ Unifies linguistic and non-linguistic reasoning by assuming the functional view on knowledge
- ✓ Facilitates cross-species analysis of cognitive abilities by eliminating indexed accessibility relations
- ✓ Encodes agents' perspectives and contextual nuances by using centred possible worlds

References

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