

# Computational Logic and Human Reasoning

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- ▶ **Motivation**
- ▶ **The Selection Task**
- ▶ **The Suppression Task**
- ▶ **The Core Method**



*"Logic is everywhere ..."*



## Human Reasoning – Two Examples

- ▶ **Instructions on the boarding card distributed at Amsterdam Schiphol Airport:**
  - ▷ **If it's thirty minutes before your flight departure, make your way to the gate. As soon as the gate number is confirmed, make your way to the gate.**
- ▶ **Notice in London Underground:**
  - ▷ **If there is an emergency then you press the alarm signal bottom. The driver will stop if any part of the train is in a station.**



## Some Observations

- ▶ Intended meaning differs from literal meaning.
- ▶ Rigid adherence to classical logic is no help in modeling the examples.
- ▶ There seems to be a reasoning process towards more plausible meanings.
  - ▷ **The driver will stop the train in a station if the driver is alerted to an emergency and any part of the train is in the station.**  
(Robert Kowalski:  
Computational Logic and Human Life: How to be Artificially Intelligent.  
Cambridge University Press: 2011)

