COMP310 – Multi Agent Systems Video 2.1: Intentional Systems

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See Vital for all material

"I believe..."

"I will take my umbrella because believe it will rain And I want to stay dry."

"Craig thinks that spaghetti Bolognese is acceptable as a breakfast food."

"I think that my friend believes in magic."

Entities whose behaviour can be predicted by the method of attributing belief, desires, and rational acumen

COMP310 - V2.1

John McCarthy on Intentional Systems

- It is **legitimate** to give **beliefs, free will, intentions, consciousness, abilities**, or **wants** to a machine
- ...when it expresses the same information about the machine as it would a person.
- It is **useful** when the ascription helps us understand the machine's:
 - structure
 - past or future behaviour
 - how to repair or improve it.
- It is perhaps never logically required
- Most straightforward for machines of known structure
- Most useful when applied to entities whose structure is not completely known ...

Intentional Systems give us a **familiar**, **non-technical way** to understand and explain agents.

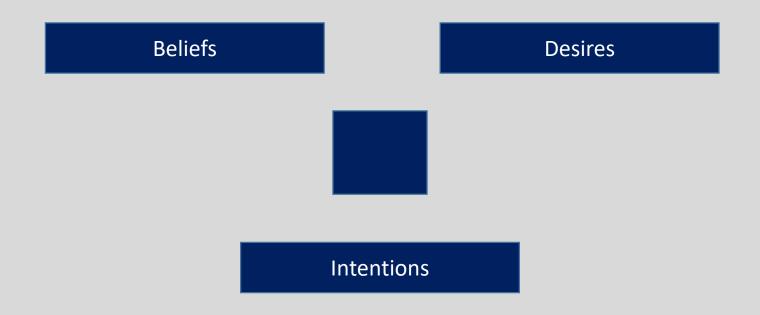
- Toaster is a **very cooperative** agent
- Will always toast bread when it thinks we want some toast
- Inserting bread will communicate our desire for toast

The more we know about a system, the less we need the Intentional Stance to explain behaviour

As complexity increases, abstractions become more useful

Agents as Intentional Systems

- Good for characterising agents
- Allows for nested representations
- Allows for an agent as a post-declarative system



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