CONSCIOUSNESS

Leibniz’s Mill (LM) - 1714
An observer walks into a mill-sized machine that has thoughts, sensations and perceptions. He can see the mechanisms, but he cannot observe the per-
ceptions. (Gottfried Leibniz)

QUALIA

Being a Bat (BAB) - 1974
What it feels like to be a bat? Subiective experience cannot be communicated. (Thomas Nagel)

Mary’s Room (MR) - 1982
Mary is locked inside a room where she learns all the physical knowledge about colors and human vision. When she leaves the room and experiences color for the first time, does she learn something? (Frank Jackson)

Philosophical Zombies (PZ) - 1974
A physical duplicate is conceivable that exhibits the same physical mechanisms as a human being, but lacks qualia completely. Since a “p-zombie” is conceivable, then qualia did not supervene on the physical level. (David Chalmers)

Chinese Nation (CN) - 1980
A body is controlled by a functional brain made by radio signals that are exchanged by the citizens of China. This artificial mind is not conscious because it lacks qualia completely. (Robert Kirk, David Chalmers)

INTENTIONALITY

Chinese Room (CR) - 1980
A non-Chinese speaker is locked inside a room. He is given a question in Chinese, and by following a set of instructions, he produces an adequate answer in Chinese. He does not understand Chinese. (John Searle)

COMPLEXITY OF THE MIND-BODY PROBLEM

If we knew every element of both the physical world (set P) and the phenomenal world (set W), we could compute the mind-body problem. The ontological question requires a test to determine where each element belongs. The causal question requires a test to determine for any combination of elements whether or not the sequence of elements, which implies it also requires a test to determine where each element belongs. If we solve problem B, we can solve problem A, but the reverse is not true.

PROBLEM A: ONTOLOGY
What is the nature of qualia?
Computer Programming
For each element does it belong to P? Does it belong to M?
Possible Solutions

PROBLEM B: CAUSALITY
How do the mental and physical world relate?
Computer Programming
For each element from P is there a relation that maps it to at least one element from M? For each element from M is there a relation that maps to at least one element from P?
Possible Solutions

QUALIA

Not Sufficient
Even if we knew there was “something it is like” to be an electric coffee grinder, we still would not call it conscious.

NECESSARY?
In a Russian world, conscious machines are nothing but zombie. Are not zombies an anthropocentric reductio?

2 Interactionist Challenges for Machine Consciousness

Two Interactionist Challenges for Machine Consciousness

Abstraction Layers of Computational Architectures

Inside the computer...

Understanding

Vanilla
Software
Algorithms
Hardware

GUI
(Graphical User Interface)

Pattern Recognition

Understanding

PATTERN RECOGNITION

Abstraction Layers of Understanding

If we think about the understanding process as an abstraction layer, then necessarily, the abstraction layer constitutes the upper layer, underneath them are elementary processing like shape recognition, and after some computerized algorithms and databases.

Understanding

...such as recognizing a cat...

PATTERN RECOGNITION

ABSTRACTION LAYERS

Software

Algorithms

Hardware

Abstraction Layers of Understanding

...no “window” to see.

No problem! That’s what computers already do!

GUI
(Graphical User Interface)

Understanding

...there is no “window” to see.

Window

Silicon chips, binary signals

2 Possible mappings from P to R

P 2 → R 2

P 2 → R 2

2 possible relations!