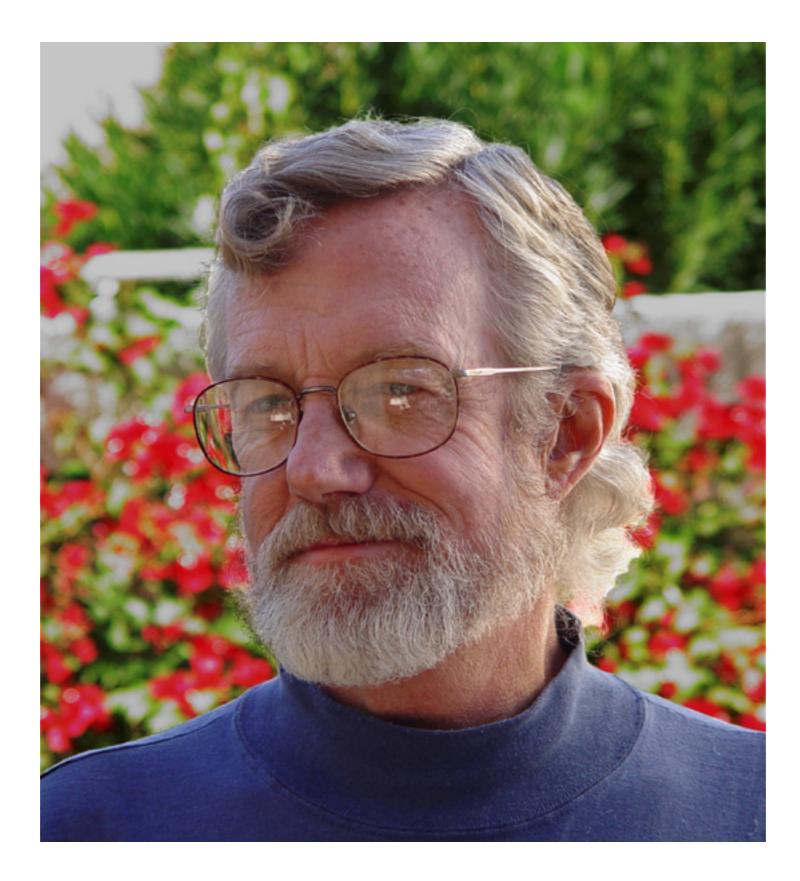
"Artilects" and the Mechanisms of Cognition

Selmer Bringsjord Mike Giancola



Are Humans Rational? September 16, 2019





"Are Humans Rational, John Pollock?"

- "... human being are for the most part rational."
- "... we have procedural knowledge for how to [reason]."
- "These rules describe how the system 'normally' functions, but it is also possible for the system to behave abnormally."
 - Pollock "Cognitive Carpentry" (1995) (CC)

Artilects & Generally-Intelligent Agents

- Artilect: Artificial Intellect
 - Coined by deGaris "What if AI succeeds?" (1989)
 - Pollock uses the term in CC
- Generally Intelligent Agent (GIA)
 - Coined by Pollock (2008)
- Both refer to an agent with "human-level" intelligence
- "My aim is to construct a sufficiently precise theory of rationality that it can be used to provide the basis for constructing an artilect." (CC)

Artilects		
Humans Most (many? some?) animals		
Cognitive Agent	Have mental models of the world Likes and dislikes	
Non-Cognitive Agent	Single-Celled Organisms Viruses Plants	Simply React Incapable of Learning
Active Stability	Most Living Things	Interact w/ Environment in some way
Passive Stability	Rocks	Hard to Destroy

Mechanisms of Cognition

- Reasoning
 - Often too slow
- Q & I Modules ("quick and inflexible")
- Emotion?
 - (Some) emotions can serve as Q & I Modules
 - Fear
 - Embarrassment

For More...

- <u>https://johnpollock.us/ftp/publications.html</u>
 - Online archive of Pollock's work.
 - For a quick intro to OSCAR, read <u>https://johnpollock.us/ftp/PAPERS/GIA-AAAI.pdf</u>
- <u>https://rair.cogsci.rpi.edu/projects/automated-reasoners/oscar/</u>
 - Software to run OSCAR