

**On our best behavior** *Hector J. Levesque***Summary:**

Common people think that AI is all about the technical applications like smart this and autonomous that but AI is more than just a technology. AI is a science that studies intelligent behavior in computational terms. Unfortunately, it is the technology of AI getting more attention. The understanding capability of human intelligence is the most complex thing because the human brain is a remarkable thing in the universe. So, the science of AI study about How is it possible for something physical (like humans) actually to perform such intelligence behavior and can we design a machine to do the same? Different research groups care about different behavior, in this paper, the author intends to examine one basic form of intelligent behavior: answering certain ad-hoc questions posted in English. Author mentioned four reasons for his interest on this kind of intelligence they are: (1) This behavior is clearly exhibited by people, (2) This behavior is difficult to track, (3) This behavior appears to underlie other more complex forms of behavior and (4) Being clear about simple behavior will help in the success of science of AI. To verify computational terms of some form of intelligence behavior author agrees that Turing Test can be used. But author thinks that a free-form conversation in Turing Test can be vulnerable to verbal tricks and canned responses and may not be the best medium for a formal test. The author supports that an alternative test based on Winograd schema questions is less subject to abuse even though it demands much less intelligence. Winograd schema successfully explains the behavior of the humans even though it is not significant in statistics. The background knowledge of people who takes the test is critical and it changes the behavior. So, the question author concerned about is:

What kind of system would have the necessary background knowledge to be able to behave the way people do?

The author mentioned about the radical idea mentioned by John McCarthy 55 years ago. That system contains a knowledge base that needs to represent personal experiences symbolically, reasoning using knowledge base and deriving conclusions that specify what actions should be taken next. The author mentioned two main challenges faced by McCarthy's approach (1) We gain knowledge, not from the personal experiences but it is with our use of language (2) Even basic level knowledge seems to call a wide range of logical constructs. These challenges are not being overcome from last 55 years. AI researchers all these years focused on less knowledge-intensive tasks and found good results but our best intelligent behavior include knowledge-intensive activities like participating natural conversations or responding to Winograd questions. Author made few suggestions for researchers in knowledge representation: (1) We need to study about how simple knowledge base can be used to make sense of simple language needed to build slightly more complex knowledge bases (2) We should explore the space of fully automated logical reasoning and study in details about the effectiveness of linear modes of reasoning. The author recommends that rest of AI community should avoid being overly swayed by what appears to be the most promising approach of the day. The author concluded the paper by questioning that Will a computer ever pass Turing Test or at least Winograd Scheme Test without any cheap tricks? The author showed the greatest confidence that it could be achieved if researchers start focusing on the real task.