The Voice of the Turtle: Whatever Happened to AI? *Doug Lenat*

Summary:

Several computer scientists including author in 1950's thought that with in next 40 years HAL-like AI would be available to world but so far, we don't have an AI that could pass the Turing's Imitation Game. Author expected AI will at least be capable of having a casual conversation with humans by 2001 but for that AI requires to understand vast variety of facts, rules of thumb and shared experiences along with the data patterns. On closer analysis author thought that many research works are not contributing to improve the scale of true AI. Researchers too often deflected their work into some other related area for short term applications. This paper explains about the reasons for delay in getting to true AI. By this talk author concerned about following questions:

- How researchers can get back to the path that could contribute to the scale of true AI?

To answer this question author tried to find out why are we still so far from having true AI? It all started by treating Turing test as holy belief and misinterpreting that Turing test as a measure of human intelligence. Many researchers developed programs that make rational choices as possible to pass the Turing Imitation Game. But human (interrogator) in today's Turing test can draw the facts, visual and aural and olfactory and tactile capabilities which are not considered in the original Turing test. To solve this problem and answer the concerned question author mentioned that AI programs need be preparational decision makers like hominids. To make AI behave like preparational decision makers it need to understand existing human knowledge and need to start from the knowledge of language we obtained from ancient cave wall drawings which resolve ambiguous words, anaphoric reference, analogous quantifiers and so on. Since 1984, from last twenty-four years author is working on similar idea called Cyc which is the hypothesis of natural language in speech and can more generally used for software applications. Author wants researchers to use existing tools like Cyc and semantic web and be persistent with the work on true AI instead of tinkering with tools. The main obstacles on the way for researchers to get to the solution is: (1) Media and art continuously bombard public with incorrect information about the computers. This primarily effects the form of development funding decisions, (2) misleading researchers by using same words with same meaning and same words with different meaning, (3) creating tangible programs using robots in real word. (4) exploring the space of formal models that meets various academic standards, (5) hard to find funding for building general AI, (6) academic inbreeding, (7) need of individualization, (8) automated evolution (9) natural language understanding and (10) no general ontology, corpus of rules for subfields of AI. The main message of the author is to take advantage of the tools around us like web, semantic web, Wikipedia, SNA, Open Cyc, Research Cyc and knowledge acquisition with games. Ignoring tools and tinkering with one or more tools would delay in getting to AI.