Alan Turing, great mathematician, one of the founders of modern computer science published a paper in 1950 with the title "Can machines think?" It offered an experimental test, taken to be a test of whether something that can think, he called it the Imitation Test, now called the Turing test. The test is designed to test if something can fool someone to think its a human. People overlook one crucial sentence in Turing's paper: "The question whether machines can think is too meaningless to deserve discussion." He said that nevertheless the matter is worth pursuing for two reasons: It might lead to the making of bigger, better machines; and it might lead to the use of the term "think" in novel ways, i.e. to describe what machines (computer programs) do.

We don't know much about evolution of human capacity for language. Why isn't bee communication studied? Much simpler. But it's difficult. Language hasn't evolved since 50-80k years, or whenever humans came out of Africa. Short period. Second thing we know, is that about a 100k years before that, there's no evidence that there was any language. Marking of astronomical events, complex society, symbolic behavior, shows up in extremely tiny window about 75k ago. Seems there was an explosion of language. Paleoanthropologist agree sometime then a great leap forward developed in one of the many hominids existing then. Anatomically modern humans have existed for 100s of thousands of years before from fossil evidence. So some change occurred suddenly in one of them.

Reviews of animal communication literature edited Randy Gallistal leading cognitive scientist says every signal one to one associated with physical event external or internal. Animals seem to have either continuious communication systems (bee dance, communicate continuous distances), or finite discrete (set of signals or behaviors which communicate something). Human language is discrete infinite; very different. Human language's core function is probably not communication. It is used for it, but so is hairstyle and walk and many other things. But most language use is internal, speaking and thinking to oneself. It is assumed as a dogma that language evolved as a communication system. Misinterpretation of Darwin, evolution has to take place in small steps, no serious evolutionist believes that anymore. Fransois Jacob, evolutionary biologist.

David Marr, one of main theoriticians of visual systems. What kind of computation is taking place in the visual system. If person is shown successive presentaitons of point on screen, person percieves object in motion. Why do we impose rigidity on the world? Seems to be inherent in our visual

system. On virtually no evidence, system constructs rigid objects in motion.

Language isnt system of communication: instinctively eagles that fly swim. What adverb instinctively goes with? Swim not fly. can eagles that fly swim? asking whether they can swim not fly. Kind of puzzling. why doesnt first element find the closest verb? or most remote verb? what its finding is structurally closest verb. Finding closest is trivial computation. Why do we pick complex computation. why is this true for all languages and why children know it instinctively? Children make "mistakes" usually using rules of other language not knowing what language this is, but never recorded this kind of mistake. Linear order is ancillary to language not central in its structure. Lab in Milan constructed languages not known to subjects and normal language areas in brain activated. When nonsense systems (Based on order or something) was constructed, subjects could handle it but treated it kind of like a puzzle, different areas of brain activated.