

Review of: "A First Chat with ChatGPT: The First Step in the Road-Map for Artificial Intelligence ..."

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Potential competing interests: No potential competing interests to declare.

Dr. Ravi Kashyap's paper is a well written, almost personal outlook into what future AI "companionship" might look. I imagine such dialoguing machines as good companions to elderly people suffering from isolation and loneliness. The paper describes an interaction with a language-oriented AI, and it is done in an intelligent, non-aggressive way. The author is intelligent enough not to elevate AI as the absolute *panacea* (the all-healing potion) of mankind's failures, avoiding ideological standpoints. Ideological standpoints are the result of an idea, initially well worth of being discussed, transformed into a *dogma*, which is totalitarian. As having been personally involved in making a computer understand a certain field of science (chemistry in my specific case) over decades, I had the easier task of dealing with problems that were unpolitical and did not require "inclusion". The neurotransmitter *acetylcholine* is the same on the North Pole, in Argentina and among Cherokee people. Thus, my AI dealt with unbiased, physically standardized results (the dipole moment of a molecule, for example). At this point the author will allow me a few friendly comments:

Inclusion: he stresses the principle of inclusion as relevant in the smooth functioning of the AI chat. In theory he is perfectly right. In real life however, it could be difficult to realize inclusion in a complete and fair way, simply because inclusion is not axiomatizable in a consistent way (contrary to chemical rules or quantum-mechanics, for example). Inclusion is a *cultural* variable in the equation, and not an independent *physical* variable. As a simple example, in the Roman Empire there was no word (!) for *homosexual*, *gay* etc. Sexuality was regarded in a completely different way and homosexuals were not perceived as something separate, that is, something that needs special effort for *inclusion*, as they were not *excluded* in the first place. In later times homosexuals were seen, depending on country, religion and cultural environment, as a sin against God, as criminals, as people suffering from a disease! All these definitions are judged today, in the eyes of a scientist like a chemist like me, obviously as imbecile statements, especially the religious one, which can be easily annihilated by a simple mathematical proof using elements of mathematical logic. We know today that homosexuality is a simple, harmless genetic manifestation. This is the reason why I would be very cautious is even trying to program "inclusion" in the chatting AI. It may go VERY wrong and start a barfight! To define who has to be included, e.g., the Cherokee people, one must find a set of axioms to create a set for these people. But others my object to that and suggest a finer distinction (more separating hyperplanes, more clusters, more subsets...you get what I mean?). But we cannot find enough axioms to guarantee *completeness*, as this ideal target (real completeness) would require 8 billion axioms at least to accommodate 8 billion DIFFERENT individuals on the planet. I took this example *ad absurdum* willingly, to give you a flavor of what kind of animosity can arise if inclusion is incomplete. Inclusion itself, by being difficult to axiomatize, is ill-defined: what do you want to include? As I am writing this (no joke!) there is a "woke" movement that

heavily criticizes Walt Disney cartoons (e.g., Snowwhite) because the *good* characters always have “French-style” noses (nice, small, pointing up), while *bad* characters, like witches, mostly have long and curved noses. So, all the people born with longer, bulkier noses feel *excluded* from the realm of the good persons! The mother of stupidity is always pregnant. No comment to that.

I would rather program an AI in a neutral way, avoiding inclusion traps, where the dialoguing human is just a “user”, and the user can define at the beginning of the talk with the AI the way, or style, he wants to be addressed by the machine: *Mr., Mrs., Rambo, 007, Godzilla, Peach.....*or whatever the user deems desirable for himself in that case and moment.

Any time a subject comes up where “inclusion” might lead to animosity and fight, the AI should politely decline further interaction. Technically, in a *spanning tree* of possible *solution states*, that branch leading to confrontation should be pruned by the internal AI judgement module. Again, inclusion is a cultural matter, and is time-dependent, the acidity of ascorbic acid is not!

Shakespeare: yes, artists can be tranquilized. As of today, machines can *imitate* impressionist painters, but this is mathematically feasible by putting a *metric* description on the brush strokes and simulate them. No big deal. The REAL artistic feat of a human artist is however the use of antinomies, which is contrary to the principles of developing algorithms in an AI. The antinomy would infringe the principle of the AI program of “not being harmful”. An antinomy is, for example, TRUE= FALSE, DEAD= ALIVE, REDLIGHT=GREENLIGHT, I LOVE YOU AND THEREFORE I KILL YOU!!...etc. In art, let’s take poetry as an example, antinomies are the one wonder weapon that makes the essence of a situation understandable to a deeper level. Take the great Italian poet Petrarca, for example: standing in front of his dead beloved woman he pronounces ...*morte bella pareva nel suo bel viso.*, *death looked beautiful in her beautiful face* !The antinomy is apparent and becomes pure esthetic, carrying a mighty poetic power! Even the most **horrible** thing, death, becomes **beautiful** in the woman’s face. Imagine an AI traffic controller going “artistic” and making a red light equivalent to a green light at some intersections....!

Pure happiness and true love:

I think that the author might be much younger than me, and that my Arizona saddle is older than he. He will forgive me if I take a more cynical stance in this matter. His vision of a higher state of consciousness in humans, through AI interaction as a one possible means of spiritual development, might not be very easy to reach. I was professionally training in a Rinzai Zen temple in Japan, for many years, and although Buddhism talks about unrestrained love and understanding among ALL humans, my lesson learned was that the monks there were very elite. Yes, mediation and life in a temple is like driving a spiritual Ferrari. No place for the proletarians. Monks don’t work. We ate off donations from the inhabitants of next town around us. And it is extremely individual oriented. Enlightenment is individual. The road to this state of consciousness is individual. Forget inclusion! Casual chats were not always welcome. The state of *peace and wisdom and universal love* is NOT , repeat NOT, to be defined with words. Silence is the answer. My Master told me always *.if you can word it, it is not!* So, imagine a Master who “knows” but is silent about what he “knows” as it is unspeakable, in other words it is *outside of the elements of our humanlogos* (elements and their rules which are necessary to make our AI function!). Imagine now another man, a stupid idiot who knows nothing. In principle he, as he knows nothing, should be

silent, right? (In reality, stupid people talk very much, but let's work here with a Galilean approach to science, using an *ideal* experimental setup). So, we have the equation MASTER = STUPID. Can an external observer distinguish between the two silences? Here we have Turing! Good luck to you!

I like the concept of Artificial Consciousness, interesting. Brings me to my world model (it is age again, forgive me!) where I perceive the futile efforts of *homo sapiens sapiens* (HSS) to improve and attain universal knowledge, if knowledge means primarily acting wisely, avoiding, as the author says, social plugging. As a chemist I must express my deepest disappointment in how almost everything in the last two centuries was managed by HSS. From the industrial revolution, where children died in mines and smelters, to the lung cancer epidemic due to tobacco use, to the plastic environmental pollution, the ozone hole, the global warming, the world overpopulation, the Covid disaster, the uncontrolled migration waves....you name it. All these catastrophic events are very simple to predict, model and prevent using a scientific eye. Take global rising temperatures as one simple example. In my university every student in the third semester, faced with elementary quantum mechanics describing quantum states of rotation and vibration of molecules, knows that CO₂ and H₂O (in a polluted atmosphere) have more "degrees of rotational and vibrational freedom" due to their molecular geometry and number of atoms compared to nitrogen and oxygen (unpolluted atmosphere). Thus, they can store more energy (which is *heat*), which causes the rise in temperature worldwide. It was easily computable decades ago, but no.... HSS preferred to ignore it, driven by the demon of profit. Today, a hysteria has convinced us to run for safety and readjust the environment using electro-cars. Good luck in finding metals to refit 2 billion cars. The same line of thought holds for all the other problems, which were understandable and avoidable if a scientific approach had been chosen. This has never been the case in human history, however. HSS acts in a *reactive* manner, never in a *proactive* one.

Therefore, I have my sincere doubts that even the best interaction between HSS and any array of well-informed AI may change our (dire) destiny. Man does not learn fast enough before the next self-inflicted biblical tragedy strikes.

Work: yes, AI will make some professions obsolete. I don't perceive how large the effect will be, we don't have enough data yet. But signs are there: in the USA a major tractor company has now released a huge AI-controlled tractor that performs all kind of farming actions on the fields without a human on-board. A farmer was interviewed and said he could now spend more time at home, probably watching TV, drinking more beer (makes the beer companies happier!) and possibly scratching his butt. Besides these enormous advantages, I foresee that his son will never learn the *art of farming*, as it will become obsolete. So, a part of human knowledge (farming and understanding the natural environment of fields) will be lost for eternity.

Happy ending: the author gives us a spark of hope. Maybe. I was concerned in previous years that a malicious AI would one day take over mankind and turn us into slaves. That's certainly not the happy ending envisaged by the author. I dropped this fear as we have enough guerrilla fighters capable to use C4 and blow up all we want, including all wannabe HAL9000 of future generations. What I am scared of is not so much the power of *Artificial INTELLIGENCE* as the power of *HUMAN STUPIDITY*. The author intelligently says that we may have misinterpreted the aim and role of AI so far. I can agree with that. But, much worse, we have underestimated the effect of human stupidity, and should devote more effort to study this subject. Maybe an AI will help?

