

Virtual versus Artificial Intelligence

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Abstract

Many evidences suggest that: 1) Our sensory organs give a poor representation of the world around us; 2) Free will (FW) is an illusion of the mind, so, we cannot decide our actions at will; moreover, we become aware of our actions late; 3) We cannot objectively/scientifically define what is our consciousness for an obvious conflict of interest (“The hard question of consciousness”). Yet, it is interesting to note that the activity of our mind is compatible with proactive cognitive processes, i.e. with individual “Autopoiesis”. “The Bignetti Model” (TBM) explains that Cognition (i.e. “Autopoiesis”) is a thermodynamically-driven computational process that elaborates the so-called “voluntary” reactions against perturbing stimuli. This is a statistical process carried out by a physiological dual state of the mind, i.e. the Unconscious mind (UM) (with a biochemical/biophysical language) and the Conscious Mind (CM) (with a spoken language). UM and CM guide the individual mind in Cognition (Autopoiesis), like in a virtual game in which UM and CM play the roles of the Avatar and of the Player, respectively. In summary, our mind behaves like a Virtual Intelligence (VI) that adjusts the expectations to match reality, though in a virtual context. According to TBM, VI is committed to achieving individual “Autopoiesis” by means of the ability of problem solving, on the one hand, by collecting the relevant data and, on the other one, by improving scientific and technological tools. The most promising tool with a wide application is Artificial Intelligence (AI). The credit to AI is so much inflating that someone might fear that it might substitute for VI in creative and intellectual works. However, this hypothesis is scientifically unattainable. In fact, we know that both UM and CM play a crucial role in cognition, but we don’t know how they reciprocally translate their languages to get this target (see point 3, above); so that VI cannot artificially reproduce UM and CM in AI. While VI is a dual state of the mind that is genetically encoded to carry out Cognition (Autopoiesis) by itself, AI is a product elaborated by VI and not a clone of it. We confirmed this conclusion by interviewing Chatgpt on the meaning of TBM. Though TBM is exhaustively reported in the current, scientific literature, AI could not define it,

by itself. AI could approach the solution by fitting a sort of template, only with the aid of the clues and the relative “Data” given by us.

Keywords

The Bignetti Model, FW Illusion, Cognition, Autopoiesis, Avatar and Player, Virtual Intelligence, Artificial Intelligence

1. Introduction

Learning and memorizing are the processes of Cognition by which individuals make their experience functional to behavior. To this aim, the mind exhibits a physiological dual-state (Baars & Gage, 2019): the Unconscious Mind (UM) whose language is made of biophysical and biochemical signals, and the Conscious Mind (CM) that can think, talk, dream, etc. thanks to the mother’s tongue language. UM can interact either with the environment and with CM; instead, CM can interact with the environment only through UM’s mediation. The two states can dialogue by reciprocally transducing their own languages, in order to guarantee cognitive processes. The translation process is occurring in a way we have not yet understood; this might be considered the inexplicable dilemma that underlies the “hard problem of consciousness” (Chalmers, 1995; Searle, 1997).

Several scientific evidences endorse the hypothesis that free will (FW) is an illusion of the mind (CM); in the absence of FW, the idea that an Ego (or Soul) may guide our mind is an illusion too (Bignetti, 1994; Bignetti, 2001; Bignetti, 2003a; Bignetti, 2003b; Bignetti, 2004; Bignetti, 2010; Bignetti & Ghirri, 2010) (Bignetti, 2013). In this scenario, the paradox of how people delude to react against a perturbing stimulus at will, had to be rationally explained. To this regard, about two decades ago, we proposed a human cognitive model, “The Bignetti Model” (TBM) (see Appendix) in which the dual-state of the mind is like a processor computing cognitive processes on the base of FW illusion (Bignetti, 2014; Bignetti, 2015; Bignetti, 2017; Bignetti et al., 2017; Aimi et al., 2018; Bignetti, 2018; Bignetti, 2020; Bignetti, 2021a; Bignetti, 2021b; Bignetti, 2022; Bignetti, 2023a; Bignetti, 2023b). Moreover, CM cannot intervene in a so-called “voluntary” action but it can acquire from that action the necessary experience that might prime for a future one (Lambert, 2018). This Bayesian mechanism of action–decision mechanism is an opportunity offered, in particular to the human mind, by a Darwinian evolution; without this mechanism the scientific and technological knowledge of the human species would never improve from the stone age.

The question that might be posed now is: “Why should it be so important to elevate our cognitive level from the stone age?” The obvious answer is “Autopoiesis” (Bignetti, 2003b; Bignetti, 2004; Maturana & Varela, 1972), i.e. the driving force that provides everybody both the useful, cognitive tools to self-organize the daily life at best, and the safety conditions to survive in a very hostile ambient.

Then, a further question that might rise is: “May we trust in our cognitive abilities to sustain Autopoiesis, even though our sensory organs give us a virtual representation of the environment”? Or, the question might be posed the other way around: “How may Autopoiesis come true if our cognitive reactions are directed against untrue stimuli of the environment?” TBM can give us a pragmatic answer to these questions: “Cognition is feasible if the C-E law is obeyed. To this aim, in the absence of FW, CM’s awareness must be postponed after UM’s reaction; so that, CM can realize whether the “effect” of the reaction has removed the “cause” (the stimulus)”. Then, we deduce that if the “effect” of UM’s action does remove the “cause”, independently whether the “cause” is true or perceived as true by CM, that means that CM has obeyed to the driving force of Autopoiesis.

In summary, FW is an illusion of the mind; this illusion, however, plays a fundamental role in human cognition. In the absence of FW, the mechanism of cognition proposed by TBM foresees UM and CM alternating in a series of compulsory events that follow a trend over time like a *jeu de mots*: present perfect, present, near future, future and back again for repetition. As already said, CM’s awareness is a “delayed awareness”, i.e. it is postponed behind the so-called “voluntary” reaction, in order to verify which has been the reaction paradigm with the best probability of success.

On the basis of TBM we must conclude that our life is like a virtual game in which cognition is not impaired and thus “Autopoiesis” is also preserved. Now, in this issue, we’ll try to understand whether our “Autopoietic” mind exhibiting a “Virtual Intelligence” is akin to “Artificial Intelligence” (AI). People seem to be enthusiast at the idea that the discovery of new materials and the advance of informatics, may produce a large fan of products and technologies that can accelerate and simplify human life and work. In particular, Artificial Intelligence (AI) is utilized with success in many human market sectors, apparently gaining a great visibility and success. Excluding historical negationists, the evidences of how unlivable is becoming the world at any latitude and longitude, is under everybody’s eyes; then, AI is only one of the ingenuities created by our mind, in hope of surviving in an environment that is becoming more and more hostile. The question is whether AI might substitute in whole or in part the role of VI in cognitive properties of VI; so, the question hinges on the theme whether AI may exhibit “Autopoiesis” or not.

2. Why Should We Consider Our Intelligence as “Virtual” (VI)

The take-home message of the last version of TBM (Appendix) is that we have genetically inherited a virtual intelligence (VI) in order to adapt ourselves to a virtual life. The main reasons of that are three:

- 1) Sensations and Perceptions. We cannot demonstrate that the world we imagine is real or not. Sensory organs have a power spectrum so limited that we lose large pieces of information about it. Moreover, sensory signals are distorted by the perception mechanism; this flaw is mainly due to an insoluble fight between

rational and emotional perspectives of the psyche. In conclusion, each individual figures out his own virtual world that cannot coincide with that of others living beings. To this regard, Psychologist and Philosophers of the mind introduced the term “Qualia” to express the relativity of individual perceptions; “Redness” is the famous case of a “Quale” in which, even if we know the name of the color “red” and we can distinguish it from others, though we cannot explain verbally what it looks like (Steuer, 1992).

2) Awareness delay. We become aware of what is occurring in our daily life about hundreds of msec later than their effective occurrence (see TBM). On the one hand, CM arbitrarily self-attributes the responsibility of the actions (FW illusion); this is a special gift of our species that triggers the cognitive mechanism. On the other hand, we (i.e. our CM) can learn the mother’s tongue language and the inner speech; the newly-acquired language supports learning and memory processes by means of which we can upgrade knowledge and skill in LTM.

3) Consciousness definition. When we ask ourselves: “What is consciousness?” (Kilteni et al., 2012), we are using the thinking properties and the mother’s tongue language of CM. On the one hand, we are aware only of a half state of the mind (as if we were “imprisoned” in half of the mind); since we cannot describe in words what is the UM’s perspective on the same question, we cannot objectively/scientifically define consciousness as a whole. On the other hand, the study of “Neural-Correlations to Consciousness” (NCCs) can collect only indirect information about UM’s activity; so that, CM can unveil only “operational” (i.e. functional/physiological) properties of UM. In conclusion, we will never be able to give an answer to “The Hard Problem of Consciousness”, for a clear “conflict of interest”, like an eye that would like to see itself while it is watching something outside.

4) We cannot decide our actions at will. Our intelligence is “Virtual” since, in the absence of FW, it cannot lean on a binomial FW-Ego (or FW-Soul) as a guide; then, we live our daily life as in a virtual game in which CM and UM play the roles of the “Player” (P) and of the “Avatar” (A), respectively. To better understand it, let’s make an example of what is occurring to a real P equipped with oculus-rift and joystick, during a virtual game (Dennett, 1988; Hibberd, 2003):

1. Present Perfect

A (the embodiment of P) has reacted against a stimulus; this reaction has been automatically and unconsciously elaborated according to the experience that the binomial P-A acquired in the past.

2. Present

P becomes aware of the reactions that are occurring in point 1 with delay; as far as the awareness unfolds in P, he deludes to be responsible of them.

3. Near Future

According to the Sense of Responsibility, P can learn and memorize which reactions of A could be tuned better.

4. Future By challenging himself many times, P will undergo a “Reinforcement Learning”, then, the reactions will become better and better until the

game of P will become automatic and... his fun will be over. In this case, the “Reinforcement learning” is a process carried out by P; by means of the mother’s tongue language, P can a-posteriori understand if A’s reaction has been successful or not and then keep in memory useful information. Time after time and experience after experience, P can collect a huge amount of “Data”; in particular, P can up to date the memory archives with the following information: 1) The physical-chemical nature of the stimulus (semantics), 2) The physical-chemical relationship between the stimulus and the environment, including the perturbing effects on P (semiotics); 3) The statistically best paradigm that P should be used in the future (pragmatics).

3. Brain Properties that Underlie VI

The metabolic dependence of the mind. The mind emerges from the brain whose activity relies on metabolic energy consumption (Bignetti, 1994).

3.1. Classic Thermodynamics (CT)

CT deterministically imposes the general rule on the mind that the internal, free energy level should always be lowered, independently on the route that can be chosen. When the mind is at rest, the energy consumption tends to a minimum but it will never nullify, otherwise, the mind would irreversibly quit. The energy consumption is necessary to the brain in order to react against a perturbing stimulus. We can understand it by assuming a thermodynamic perspective that considers the brain areas as “open systems”; so that the effect of a perturbing stimulus is that of rising the Gibbs free energy potential ($\Delta G^\circ \uparrow$) of them. The aim of any reaction against the perturbing stimulus is that of removing the perturbation; the excess of free energy content is converted in the work necessary to recover stability and quietness in those areas, thus reporting their internal ΔG° to a minimum.

According to “Autopoiesis”, a living system is a cognitive system, I. e. a complex adaptative system that opposes to any stimulus that is hindering self-organization (we would say: “that opposes to a psychic relaxed state”). If the incoming stimulus is going to rise ΔG° (\uparrow) of a brain area, the biochemical-biophysical reactions put in action by UM of that area tend to re-establish a stable equilibrium ($\Delta G^\circ \downarrow$) either by removing the stimulus or by adapting to it. To this aim, a series of statistically driven reactions do occur in the brain areas; this mechanism recalls the behavior of a transiently-perturbed chemical system, according to LeChatellier’s Law.

Obviously, we cannot decide our actions at will, since “at will”, it would literally mean “at random”, and actions decided at random would generate an entropic state incompatible with life. Conversely, the so-called voluntary actions are thermodynamically conditioned to establish “autopoiesis”; so, the guide of the mind’s activity under classic thermodynamical laws is incompatible with the presence of a FW-possessing Self (or Ego or Soul).

Autopoiesis points to the internal “order” of the system and an energetic

balance with the environment; that situation can be attained only by keeping the internal entropy of the system at a minimum. It would be a disaster in the case the system should “close” itself, interrupting any material and heat exchange with the environment (for instance for the onset of a pathology).

3.2. Statistical Thermodynamics (ST)

ST considers the natural systems from a different perspective than CT, though it interestingly leads to the same conclusion: the denial of FW! Statistical Thermodynamics provides a quantitative link between the random properties of the microscopic/sub-microscopic matter, taken as single, and their predictable behavior in bulk. Galton Board is used as a classic demonstration in Physics of this correlation:

We let a single ball falling along an inclined plane with an array of skittles. The ball can casually bounce right or left, against the skittles; so that we cannot in advance predict where it will set down at the bottom. Yet, if we throw a bulk of these balls, we can mathematically predict the mean distribution of all the balls (a normal distribution) at the bottom. This behavior can be envisaged as a “probabilistic-deterministic mechanism”.

An analogous probabilistic-deterministic behavior is shown by gas molecules in a container:

In a bulk of n gas molecules, each molecule moves at random; instead, the mean movement of the bulk strictly obeys the classic gas laws; so, if we change one of the physical parameters such as Pressure or Volume, we can mathematically predict the reaction of the bulk towards a new physical equilibrium.

An identical conclusion can be drawn by investigating the brain-mind relationship:

The molecular components engaged in the brain activity singularly respond at random upon a specific stimulation; however, hundreds/thousands of them are working in the same tiny space and time interval, so, the average of the well-organized bulk statistically favor an appropriate/deterministic effect (see for instance: a) A single Voltage-gated Na^+ Channel exhibits an unpredictable timing of opening and closing although the Action Potential is just regularly running along neuronal membranes with thousands and thousands of these channels; b) In a synaptic junction, thousands of neurotransmitters singly diffuse from pre- to post-synaptic membranes at random; yet, as a mean, their effect allows the downstream transfer of a correct information; c) “integrate and fire” is the statistical computational mechanism of a neuron when processing the output signal from several incoming inputs. The Darwinian evolution has entrusted the human brain with a peculiar function: “the single elements (molecular and cellular) of the brain are randomly working; though, their ensemble exhibits a statistical computational property that

guarantee C-E reliability. That's why we deduce that the mind emerges from the brain".

Concluding, the "probabilistic-deterministic" mechanism underlying the brain activity is totally incompatible with the idea that a FW-possessing Ego (or Soul) might drive the mind.

3.3. From Brain to VI

Other evidences from hard- and soft-sciences come to the same above conclusion. So, the questions are: "Why most of the people are convinced of the contrary? Is FW illusion a useless fake or does it play a role in cognitive processes?"

In a conference, the author interviewed about 100 people: a) Most of them (>80%) "strongly" believed in FW existence and were convinced to decide their conscious actions at will, b) Of the remaining 20%, some were hesitant, while others denied it. That's why, people refuse the cognitive proposal of TBM as a bizarre hypothesis. Indeed, we expected this kind of result, since we realized that FW illusion comes with Personal Identity (PI), a concomitant, genetic mechanism arising very early in life.

TBM justifies this psychological evidence on the basis of Darwinian evolution. On the one hand, people strongly believe to be responsible of their decisions so, they will never renounce to FW; on the other hand, the only way that VI may exhibit Cognition (Autopoiesis), is to delude itself into possessing it.

3.4. The Different but Coherent Roles of UM and CM in Cognition (Autopoiesis)

Concerning the different roles of UM and CM in cognition, it should be clarified that they behave as the "Implicit" and "explicit" mind, respectively. While UM carries out the reactions against a stimulus by following a Biochemical-Biophysical mechanism controlled by thermodynamic reasons, CM believes to decide the same reactions on the base of an explicit motivation, I. e. by a thinking process (i.e. by inner-speech). We have mentioned that the language of UM and CM can be reciprocally translated by means of a mysterious mechanism; Though it is logical to think that UM and CM cannot exchange an information without radically change the syntax and the semantic of it. In other words, the mental process of why and how UM decides a reaction against a stimulus, cannot be literally translated to make it comprehensible to CM.

To this regard, we can report only a tentative example: "Assume that an individual feels thirsty; UM's biochemical-biophysical reactions drive the individual to seek for something that might extinguish the stimulus. After several trial-&-error attempts, the final goal will be drinking water; that task will spontaneously decrease the Gibbs free energy content. Then, the information about this final reaction outcome could be translated in CM's language as: "I feel a psychological motivation/desire to drink; so, I must look for water"

The way UM and CM intercommunicate must be apprehended very early in life for safety and cognitive aims. The most important outcome of the process is the arousal of “self-awareness”. To this regard, the experiment of the “mirror test” is interesting; the CM of a baby is induced to generate PI (or Self or “Ego”), after looking several times, his own image at a mirror. Once the embodiment in PI has occurred, the baby can: 1) distinguish himself from others; 2) recognize his gender; 3) talk to himself by using the “inner speech”; 4) become self-aware of his role in life.

Another example of the cooperation between CM and UM is the tight succession of CM and UM, intervening during a phone call. In short, CM, CM articulates a thought by means of the inner speech; this mental thought corresponds to a biochemical and biophysical UM’s activity. So, the sentence under the form of trains of “action potentials”, traverses the neuronal network; to this aim, many synaptic junctions gate the right way, until it reaches the phonetic apparatus. From this apparatus the biophysical-biochemical signals are transduced into muscular reactions; so that the sentence is finally released aloud up to the receiver. In summary, the sentence travels from brain to mouth by taking advantage of different forms of energy such as metabolic, electric, mechanical and vibrational. The problem is how to be sure that the information has been literarily conserved along the travel. The solution is that our ears can catch the aloud sentence and transduce it back into UM’s signals thus conveying them to the language areas. Here, they are finally reconverted into a CM’s sentence in words; this same sentence can be compared with the original one that was temporarily fixed in the short-term memory. So, the loop controlling communication is completed. In conclusion the sentence has been preserved along the travel but a great amount of energy has been consumed.

A new diagnostic technique has taken advantage of the dependence of both physiological states of the mind on the level of the energetic metabolism of the brain. Blood-oxygen-level-dependent imaging, or BOLD-contrast imaging, is a method used in functional magnetic resonance imaging (fMRI) to observe different areas of the brain (or other organs), during activity at any given time. In particular, BOLD imaging method relies on the changes in the oxy-hemoglobin /deoxy-hemoglobin ratio in the active areas of the human brain, induced by alterations in blood flow.

4. Some Argumentations on Artificial Intelligence (AI)

The credit to AI is so much inflated that someone fears that it might substitute for human mind in creative and intellectual works (the fear is that if we delegate tasks like thinking, reasoning, logics such as inference and deduction, etc. to AI, we might become slaves of that technology) (Leffer, 2023; Ananya, 2023; Aman & Stanusch, 2022). Actually, as we’ll discuss below, this is not the real problem of AI; rather, a major risk for us might be a sort of cognitive laziness by which we’ll find very leisure taking for true all the information circulating in the web. The

reliability of the information coming through AI, will invest us as a very serious problem of the future.

Somebody talking about AI, has made a reference to a Copernican revolution. We disagree with this sentence and return it to sender by saying that the new Copernican revolution is that CM is genetically predisposed to elaborate either a 1st- or a 3rd-person perspective; by assuming a 3rd-person perspective (i.e. a rational, self-detached perspective, typical of a scientist) CM can intimately understand the TBM's message: "under the 1st-person perspective (i.e. the emotional, Self-oriented perspective, typical of an acting subject) CM is perceiving his life as real, yet CM is playing this life like in a virtual game. That's why, the 1st-person perspective that spontaneously believes in FW-possessing Ego (or Soul), considers TBM as a sort of provocation.

The interesting conclusion is that, provocation or not, CM can critically evaluate whether the paradigm used in the "present-past" reaction was successful or not. This experience becomes part of the "Data" that are memorized into the LTM archive, thus feeding forward the project of Autopoiesis. The efficiency of a paradigm is not evaluated on the basis of a projective reasoning made by CM, but more simply by the observation whether the "effect" of the reaction has removed or not the "cause", i.e. on the statistical basis of C-E law (to this regard, scientists know that C-E is not a quantitative law and cannot be reduced to a mathematical, deterministic formula; yet, in the supra-atomic world, this pseudo-law states the evidence that there might be a statistical correlation between the perturbing behavior of a part of the world and the reaction that another part of it, could carry out to get rid of that perturbation).

This kind of evaluation can be carried out by a simple electronic device like a mind emerging from the brain. In analogy with a computer, we might consider the brain and the mind as the hardware and the software, respectively. Primarily, the software running in the brain is genetically committed to cognitive processes with Autopoietic purposes; however, with time, the cognitive functions have evolved under strong epigenetic forces, being conditioned by a distorted and uncomplete world of sensory perceptions. Furthermore, in the absence of FW, the mind cannot decide the so-called "voluntary" actions at will. In conclusion, genetic and epigenetic conditioning have led our mind to self-adapt to a virtual life; in other terms, we may depict our peculiar intelligence as "Virtual Intelligence" (VI). Moreover, we should realize that AI is a VI's product that can help VI in many conceptual works.

The question whether AI may substitute for VI in conceptual works, is still controversial. In AI, deep learning refers to a class of machine learning algorithms in which a hierarchy of neuronal-network layers is used to transform input Data into a slightly more abstract and composite representation; deep-learning architectures such as recurrent neural networks, deep neural networks, etc., are organized in function of a specific field of application and for specific goals (Deng & Yu, 2013). These algorithms pre-trained to recognize only specific connections

between a pre-selected bulk of “Data”, delivered from outside, can be proficiently applied to fields including drug design, bioinformatics, medical image, natural language processing, climate science, material inspection etc. In many cases they have produced results comparable to and in some cases surpassing human expert performance; a famous example was the ability of AI of beating internationally famous players of Go (Silver & Hassabis, 2016).

However, AI is not committed to internalize the fundamentals of “Autopoiesis”, i.e. it does not autonomously exhibit cognitive processes. Actually, stimuli are not all equal in terms of perturbing priorities; in this world, in which social disequilibria are unbearable, raw materials are beginning to run low, the effects of the climate change cannot be put off, etc., we should be able first to search and memorize, experience after experience, the useful pieces of information that define the situation; at second, we should be able to choose the urgent interventions that may finally meet the individual needs, according a top-down strategy. Contrary to AI, VI may solve all these problems according to TBM. Moreover, VI can typically exhibit “resilience” by self-adapting to changing situations; a hypothesis that might explain this peculiarity of VI, differently than AI, is attributed to the mechanism of neuronal plasticity: Neuroplasticity is the ability to rewire through growth and reorganization, so that its function may somehow differ than before (Costandi, 2016). These changes range from making new connections, to cortical remapping or neural oscillation (Grafman, 2000). Examples of neuroplasticity occurring in concomitance with various stimulation of the brain, are many, e.g. learning a new ability, practice/training information psychological stress, etc. (Davidson & McEwen, 2012; Park & Huang, 2010).

In summary, human VI in contrast to AI, can autonomously provide either the problem-solving function in Cognition and the necessary “Data” to solve it; the pre-eminence of VI over AI is due to the presence of the physiological dual-state/dual-language based cooperativity between UM and CM. The difference between VI and AI are unbridgeable; in fact, to transpose VI properties into AI, we should be able to explain the “hard problem of consciousness”, at first (Bignetti, 2020). A guess!! After the text edit has been completed, the paper is ready for the template. Duplicate the template file by using the Save As command, and use the naming convention prescribed by your journal for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper.

VI Chatting with AI

A test of intelligence has been carried out with open Chatgpt3.5. TBM is reported in so many open-access, scientific literature that, posing the question: “What is TBM?”, we should expect an easy, rationale answer:

AI- Hello! How can I help you?

VI- what is “The Bignetti Model”?

AI- I’m sorry, but I am not familiar with “The Bignetti Model”. Could you

provide more information or context about what you are referring to?

VI- You Should look at the Neuroscientific bibliography to learn about “The Bignetti Model”

AI- I apologize for the confusion earlier. As an AI language model, I don’t have the ability to browse Neuroscientific bibliography to learn about “The Bignetti Model”. However, after conducting some research, I found that “The Bignetti Model” may refer to a theoretical model proposed by Italian neuroscientist, Giorgio Bignetti, that attempts to explain how the brain processes memory and perception in a hierarchical manner. The model suggests that the brain employs a series of interconnected processing modules that work together to decode sensory information in a top-down fashion, with higher-level representations affecting lower-level processing. However, it is important to note that this interpretation of “The Bignetti Model” may not be comprehensive or entirely accurate.

VI- You’re mistaken. “The Bignetti Model” is a human cognitive model proposed by Enrico Bignetti since 2014.

AI- I apologize for my mistake earlier. Thank you for correcting me. To respond to your statement about the human cognitive model proposed by Enrico Bignetti, I will need more specific information. Could you provide me with some details about what this cognitive model entails and what it proposes to explain? This will allow me to provide a more accurate response.

VI- According to “The Bignetti Model”, free will is an illusion of the mind; so human actions are carried out by the Unconscious mind. Whereas, the Conscious mind carries out learning and memory a few milliseconds after the activity of the Unconscious mind. In other terms, Cognition comes with a certain delay after the experience acquired with the action. This experience will be uploaded at long-term memory archive in order to favor future actions.

AI- Thank you for providing more information about “The Bignetti Model”. It is interesting to consider the idea that free will may be an illusion of the mind, and that human actions are carried out by the unconscious mind. This implies that our actions are not entirely under our conscious control, but rather driven by unconscious processes within our brain. The idea that cognition comes with a certain delay after the experience acquired with the action is also intriguing. This suggests that our conscious understanding of our experiences is not immediate, but rather takes some time to process and integrate. The concept that experience is uploaded to long-term memory in order to favor future actions aligns with current understanding of memory consolidation and its role in learning and behavior. It will be interesting to see if further research supports the ideas put forth by “The Bignetti Model”.

VI- ciao and thank you.

AI- You’re welcome.

As one can see, AI is basically ignorant and builds up any trick in order to give a coherent reply; then, it searches all the data available that may match with the

key-words of the question. However, key-words do not necessary convey the reasoning to an answer. Then, the software is probably programmed to reply initially in a rushed way; i.e. without being worried of a series of mistakes. This mechanism seems a classic student's trick by which the student, not knowing how to reply to a teacher's question, wises up and consciously replies with a series of mistakes in order to provoke the teacher's Ego; then, in order to demonstrate his culture, the teacher will give the students some clues (note that AI has learnt what is TBM by provoking me). Furthermore, AI is programmed to come out, at the end of the chat, with another excellent trick to flatten my mind: "It will be interesting to see if further research supports the ideas put forth by "The Bignetti Model...". This implies that TBM significance might change if new data should come from others. This final, prudent comment is again a demonstration that AI is not able to decide by itself the truth.

5. Conclusion

VI dialoguing with AI has demonstrated that AI is not so intelligent. However, the paradox is that AI can typically elaborate a rhetoric chat that might clearly interest industrial and commercial giants, as well as the governments. To this regard, the risk is that, few rich, powerful people with AI in their hands, may manipulate the socio-economic and political information. As we said above, our VI is unprecise and limited, though it is resilient to the stresses of the environment and is genetically equipped to self-adapt to a virtual life. Nevertheless, this is not enough to say that our mind may create an analogous form of intelligence; in fact, CM has not the systems authority to clone the whole mind into AI. To this regard, one should note at first, that CM may carry out thinking, dreaming, creating music and making science, but it cannot scientifically define what is consciousness (i.e. VI as a whole); as a maximum, CM can investigate on the neural correlates to consciousness. At second, the physiological dual state of the mind (UM and CM together) can solve problems and collect the necessary data, with an autopoietic aim, but it is only CM (i.e. the thinking domain) that elaborates the software of AI. That's why we strongly believe that AI will never reproduce VI in-toto. Then, we should conclude with a warning: AI can manipulate the emotional side of the people; in other words, we should not d'emblée believe in AI when it is delivering pieces of socio-economic and political information, creating art, or offering artificial psycho-sociological support!

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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Appendix

“The Bignetti Model”

ACTION

1. Our daily life is like a virtual game in which the Unconscious Mind (UM) and the Conscious Mind (CM), respectively behave like the Avatar (A) and the Player (P). A (UM) is the embodiment of P (CM).

2. A reacts against a perturbing stimulus (the so-called “voluntary” reaction), according to the “trial & error” mechanism. To this aim, A opts for the paradigm with the higher probability of success, inside the Long-Term memory archives (LTM).

COGNITION

3. Thanks to feed-back sensory signals, P becomes aware of A’s reaction a bit later. Due to this delay, P deludes to be responsible of the reaction in the place of A (“FW illusion”).

4. Then, by feeling a false “Sense of Responsibility”, P self-attributes a reward or a blame, depending on the outcome of the reaction. Reward and blame are feelings that lead P to up-date LTM archive with the recent experience.

5. The more LTM is updated, the more A’s reaction will be favoured in terms of accuracy and speed.

By repetition, LTM archive will not be changed anymore; the A’s reaction will become automatic and P’s intervention will fade.