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Human Life is Like a Virtual Game with an Evolutionary Aim

Enrico Bignetti*

**Prof. of Applied Biochemistry and Molecular Biology (retired) The University of Parma, Italy.*

*Corresponding Email: *biriko@icloud.com*

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Abstract: ***It is well known that our mind can perceive the world around us in a limited, distorted and sometimes virtual way. In this regard, a cognitive theory speculated that human beings can evolve in a Darwinian way in order to fit their daily tasks, instead of demanding the truth. Moreover, that theory renounced questioning about the world inside us, I.e. the brain-mind relationship. This question was faced by "The Bignetti Model" (TBM), starting from the evidence that: 1) Since the birth, the mind emerges from the brain as a Tabula-rasa; 2) Free will (FW) and then also the FW-possessing Ego are illusions of the mind; 3) The mind exhibits a functional dual state: UM) the unconscious (implicit) mind that is characterized by a biophysical-biochemical language; CM) the conscious (explicit) mind that corresponds to the thinking function, typically elaborating inner-outer speech (based on the mother's tongue language), images, music, mathematics etc.; 4) UM and CM exhibit the same probabilistic-deterministic mechanism of the brain and cooperate for cognition and behaviour, to this aim they reciprocally translate their languages by a mysterious way. According to TBM, UM reacts to perturbing stimuli (the so-called "voluntary actions"); later, their feedback signals make CM aware. Due to the illusion of possessing FW (Ego-FW), CM believes of deciding those reactions (the Sense-of-Responsibility); then, CM critically uploads credits or faults of the experience just lived into Long-Term-Memory (LTM). Thus, UM will find useful pieces of information for future reactions. In synthesis, our life is like a virtual game in which UM is the avatar that moves in the game; while CM is the player; by learning and memorizing the avatar's "prior" action probability, the player will increase the success of the avatar's "posterior" action probability. The mechanism of our virtual life is in accordance with Bayesian learning theory. In conclusion, the more sophisticated is CM's reasoning of animal species, the higher they will evolve.***

Keywords: ***Cognitive Psychology, Free Will Illusion, The Bignetti Model, Virtual Game, Virtual Life.***

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1. INTRODUCTION

"The Bignetti Model" (TBM) [1-21] is the unique cognitive model that explains on a statistical basis that human mind can react to inner or outer perturbing stimuli, in the presence of the virtual binomial Ego-free will (Ego-FW). The idea we can build of the world outside or inside us is limited, distorted and very often virtual. Several examples can be done, for instance all the sensory receptors are poor transduces of the reality. However, the sensory transductions of physical-chemical signals of the world into a biophysical-biochemical language of the brain are only the first gate that negatively contribute to the final aware representation of the world. In fact, from the psychological point of view, the primary information is then furtherly transduced in perceptions in the mind. The nature of perceptions and the mechanism by which they arise in the conscious mind is unknown so that the final representation of the world has much to do with theatre for some philosophers of mind, or, for others, with intimate though virtual representations, namely: "qualia". In philosophy of mind, many definitions of qualia have been proposed, e. g. as instance of subjective, conscious experience. One of the simpler, broader definitions is: "The 'what it is like' character of mental states. The way it feels to have mental states such as pain, smelling a rose, seeing red etc." (the "redness" of red is a commonly used example of a quale: two people have learnt to recognize the colour red but neither of the two can describe the qualitative perception of the red as perceived by the other). The nature and existence of qualia under various definitions remain controversial. Some philosophers of mind, like Dennett, argue that qualia do not exist; other philosophers, as well as neuroscientists and neurologists, believe qualia exist and that the desire by some philosophers to disregard qualia is based on an erroneous interpretation of what constitutes science [22-29].
If the representation of the outer world is totally uncertain, the same can be ascertained when trying to move within the obscure meanders of the mind looking for "consciousness". The scientific, objective definition of "consciousness" is a big attraction of neurosciences ("The Hard Problem of Consciousness") [30-31].
Actually, years ago, it was demonstrated that the mind functionally behaves as a dual state: one state corresponds to an unconscious (implicit) mind (UM) that is characterized by a biophysical-biochemical language while the other one corresponds to a conscious (implicit) mind (CM) that corresponds to the thinking function, typically elaborating inner-outer speech (based on the mother's tongue language), images, music, mathematics etc. Then, we realized that the efforts to give a solution to the "hard" question of consciousness was obviously posed by the consciousness itself (CM) [16-18; 32-34]. That's why "The Problem of Consciousness Is Hard"! The attempt to give a scientific, objective (conceptual) definition of consciousness is impeded by an unsurmountable conflict of interest (please note that the dual state as nothing to share either with Psychoanalysis or with mind-body Cartesian dualism). It is true that we can objectively approach the mechanism of the mind by studying the natural correlations to consciousness (namely: NCC). Actually, technology is improved so much that we can follow the travel of UM' activity through gyri, but this does not mean getting the true CM's counterpart and vice-versa [16-18; 35].
The consequence of this intrinsic ignorance of the science about consciousness reflect on crucial evidences of our everyday life. The major questions are: "Who is the "driver" of our so called "voluntary" reactions in response to the perceptions of outer and inner stimuli?";

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moreover, "Who is in charge of motivating a reaction based on the cause-effect law and accordingly with the influence of a reward or a punishment?".

Free Will is an Illusion of the Mind

Most people believe in the freedom of their will (FW), so they are convinced to decide their own so-called "voluntary" actions, without being controlled by God, fate, or circumstances. However, there are many pieces of evidence that the reactions motivated to remove perturbing stimuli, are rationally conditioned by the Cause-Effect law and not by FW; if our behaviour should be carried out on the base of FW, chaos would reign in our mind, a chaos incompatible with this world. This is a simple reasoning but many others example demonstrating the illusion of FW can be taken from the neuroscientific literature (see examples in author's bibliography) [8-11]. The interesting thing that seems sorting out as a by-product of the belief in FW existence in CM, is the believe also in the existence of a real independent Ego or Self. The idea of possessing an Ego in CM goes in parallel with FW existence; in fact, renouncing to FW would be a suicide for Ego. This simple deduction explains why people is so attached to the binomial Ego-FW; however, this strong believe in Ego-FW induces people's CM to trust in most of the religions (about 7000 in the world), claiming the mind-body dualism. The American philosopher John Searle believes that mind and body are not two different entities; that consciousness is an emergent property of the brain, and that consciousness is a series of qualitative states (Searle, 1997). With regard to the old philosophical question of duality and FW, Searle is astonished that the problem of duality has not yet been resolved, and thus asks himself why we find the conviction of our own FW so difficult to abandon. He writes: "The persistence of the traditional free will problem in philosophy seems to me something of a scandal" [36]. In the philosophy of mind, this dualism was so beloved by many philosophers, since Plato up until now; in the attempt of discovering the truth, we analysed the mechanism of its ontology in CM. We concluded that the binomial Ego-FW is an illusion installed in CM that apparently causes a mess of false information, e. g. the belief of deciding actions independently, at will [17].

In summary, we have seen that the representation in the mind of the outer world is flawed and virtual. As well, when reasoning on ourselves, CM self-attributes the existence of a binomial Ego-FW with the pretentious authority of enabling action-decision mechanism at will.

The question is whether this representation of mind might be compatible with true life? Actually, few years ago, a cognitive theory speculated that the motivation of human beings is not knowing the truth but evolving in a Darwinian way in order to fit their daily tasks in a resilient way (Prakhas et al.: https://sites.socsci.uci.edu/~ddhoff/FitnessBeatsTruth_apa_PBR.pdf,

According to another theory, namely "Autopoiesis" [37], human being is a system exerting specific cognitive processes just to be capable of reproducing and maintaining itself. The basic mechanism is creating its own parts by intaking material and energy from the outside. Unfortunately, neither of the two theories, did not explain in detail on the base of which mechanism we might sustain a virtual life.

In conclusion, the introduction leaves us with a crucial question (as Dennett would pose): "Who is the driver of the car"? Moreover, the further question is: "By lacking a real, objective and

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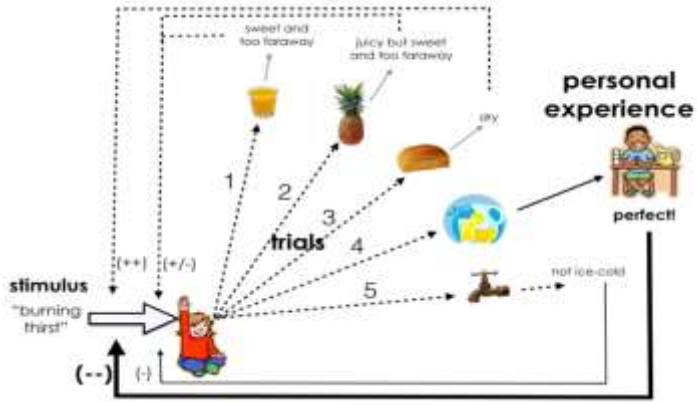
independent Ego-FW (or Soul or Self, etc.) in the mind, how can we voluntarily motivate our reactions against a perturbing stimulus?".

"The Bignetti Model": How Cognition Can Occur in the Absence of a FW-Possessing Ego
"The Bignetti Model" (TBM) explains how cognitive processes can be carried out in the absence of a real Ego-FW in CM [1-6]. the model was initially elaborated since many years ago, then improved time after time; it describes the sequence of events underlying the so-called "voluntary action" and the associated cognitive processes, in 6 compulsory steps. The apparent paradox of TBM is that it acknowledges that people strongly believe in FW, even though it is clearly known it is an illusion. The apparently "nonsensical approach" assumes that, due to an evident evolution of the abilities of the human mind, the illusion of possessing FW must play a fundamental role in fostering cognitive processes, instead of a real FW.
Let's now see in detail TBM [9-12]:

Action
The "Unconscious Mind" (UM) reacts against unknown inner and outer stimuli by means of a statistical "trial-and-error"-based mechanism. According to the Cause-effect law, when the perturbing stimuli will stop, UM's reactions will also stop (See fig. 1)

Fig. 1



1. During the action execution, UM will convey feed-back signals to the brain thus awakening CM (that is personally involved in the action).

Cognition
2. CM is unaware of the preceding UM's activity, so it erroneously believes of having freely decided and executed that reaction (the illusion of possessing free will).
3. The illusion of CM activates the subjective experience of both the Sense-of-Agency (SOA) and of the Sense-of-Responsibility (SOR). Then, depending on the reaction outcome, SOA and SPR activate the affective circuit of operant conditioning based on reward or blame.
4. Reward and blame are motivational incentives of learning and memorizing from the subjective experience. So, CM will update Long-Term-Memory (LTM) archives (see Fig.2).

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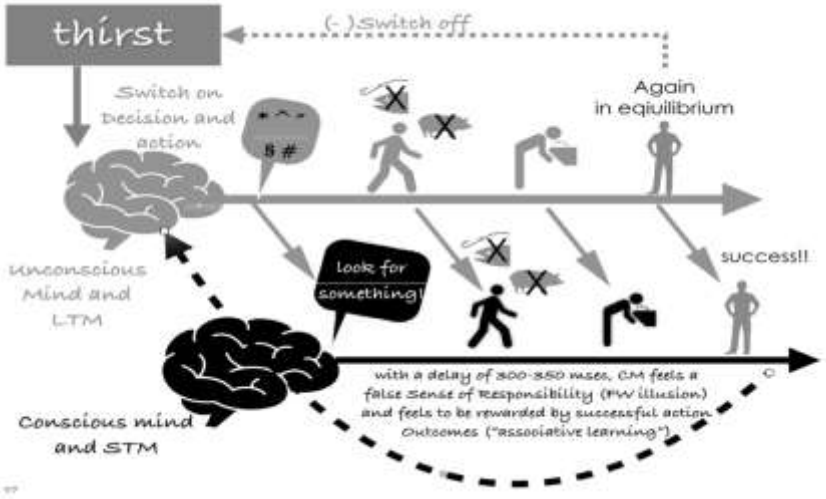
Fig.2



5. When the stimulation in 1 is reiterated, UM will refine the "Trial-and-error"-based reaction, by taking advantage of updated LTM; thus, the reactions will become more and more quick and efficient, than in 1. With many reiterations, the procedure with the best effect will become automatic.

Our Life is Like a Virtual Game

Our mind initially is a Tabula-Rasa; during the first 2-3 years of life, it must upload an enormous amount of knowledge and skill to rapidly mature a resilient and autopoietic personal identity, thanks to the cooperation between UM and CM. TBM well explains the complex cooperation between UM's action and CM's cognition. The initial, fundamental step of cognition corresponds to UM's reaction towards outer or inner stimuli by adopting the "trial-and-error" mechanism. Though, this step is not enough; in fact, without a further learning and memorizing of the outcomes of the initial experience, human beings would have never evolved from stone age. Learning and memorizing processes of CM (cognition) intervenes with few milliseconds delay with respect to UM.

By analysing the learning curves obtained by different authors, the curve is always a branch of an hyperbole; the so-called "posterior probability of an event on the curve is a type of conditional probability that results from updating the prior probability" on the same curve, according to Bayes' statistical theory. This rule indicates that learning and memorizing the experience of the past reaction gives a fundamental contribute to predict with higher probability of success any future reaction. In fact, the branch of a hyperbole; after repetitive reactions, points to a saturation value; at saturation, the reactions are automatic and no more require the intervention of the intellect [13-14; 38].

The time line of the events described in TBM recalls the same situation we might undergo when playing a virtual game. In this case, the elements in play are: 1) the player with an oculus rift, I. e. CM; 2) the Avatar, I. e. UM; 3) A display on which the Avatar. (see Fig. 3)

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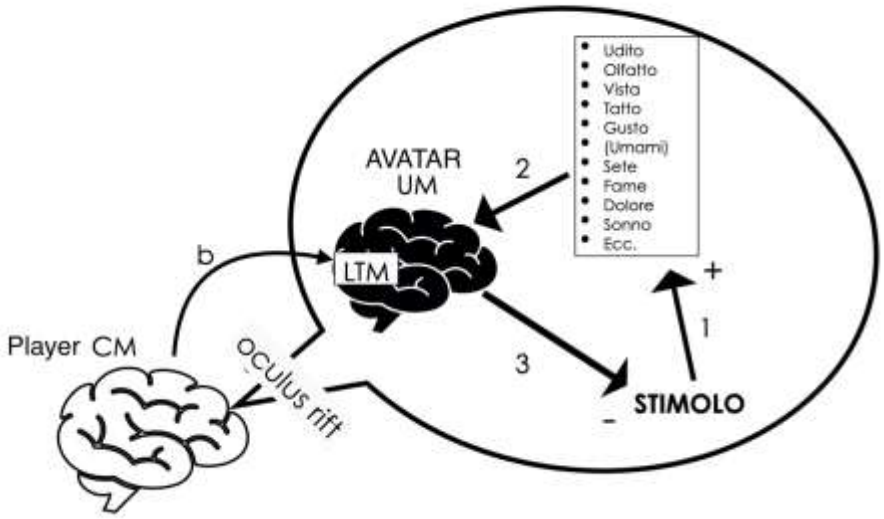
Fig. 3



Let's assume that UM-Avatar first elaborates a reaction against an enemy (the perturbing stimulus) by using a "trial-and-error" mechanism. The unconscious motivation of this reaction is to remove the risk of being killed but the reaction was unsuccessful: the enemy is faster and kills him. CM-Player becomes aware of the overall scene with a certain delay. According to SOA and SOR, CM-player believes to have governed the UM-Avatar's reaction though with a wrong directive; then, CM-player self-punishes for the wrong order and uploads in LTM an alternative order: "if a second enemy, dressed as a soldier, would appear, then UM-Avatar should fire as fast as possible without any concern"! As one can see, the need to believe in FW (even though an illusion) is absolutely necessary for the cognitive role of CM-player; then the elaboration of the past experience becomes useful for the future. In fact, all the experiments of animal learning show that the feeling of responsibility of an action (SOR and SOA) will cause the mechanism of self- rewarding or punishing; so that, that the experience of the past action will be steadily learnt and memorized as a correct paradigm for the next trial. In summary, SOR and SOA are necessary on the base of which steps the behaviour will progressively ameliorate.

2. CONCLUSIONS

In conclusion, FW illusion may perfectly substitute for FW in all cognitive processes. In this space-time frame, people perceive the sense of embodiment in Ego-FW the same way as a virtual-game player may perceive towards his Avatar. Obviously, people are: 1) not aware UM is dressing the suits of a false Avatar by means of which they give rise to cognitive processes; 2) moreover, they don't even want to listen to a scientist who is revealing that cognitive mechanisms stand on a gigantic illusion; 3) FW illusion may perfectly substitute for FW, thus allowing a typical learning process.
In this space-time frame, people perceive the sense of embodiment in Ego-FW as a virtual-game player may perceive towards his Avatar. Obviously, people are not aware of dressing a

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false Avatar by which they give rise to cognitive processes; moreover, people don't even want to listen to a scientist who is revealing that cognitive mechanisms stand on a gigantic illusion! People consciously refuse this idea. Yet, entering the labyrinth of the mind, we can conclude that people's opinion is absolutely right: they must think so! and that is why TBM is successful; in the absence of a true FW, FW illusion is required by CM for the so-called voluntary behaviour [19-20].

A substantial literature deals with the impact that psychological embodiment in the Avatar, determine on the sense of reality, location and freedom of the will. The stringent analogy between biological and virtual realities can be particularly seen when the virtual player utilizes the "oculus rift". In this context, the player perceives two main feelings: strong embodiment and immersive perception [39-40], that are characterized by:

1) The sense of self-location. This sense leads the player to become aware either of the physical contexts of the virtual game in which the Avatar is moving,

2. The sense of body ownership. In order to get this feeling, a fine synchronization of the visuomotor reactions of the two entities is required in order to believe that the avatar might really correspond to the real body.

3. The illusion of agency. This feeling leads the player to the illusion of making with the Avatar whatever and whenever he wants, right as it may occur with his own real body.

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