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SPIRITUAL INTELLIGENCE AND ARTIFACTUALNESS

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Abstract

One of the most underestimated aspects of human intelligence is its creative component. The complexity of cognitive system reaches a point where the trial and error conduct is unsatisfactory. The human level of intelligence achieved a superior level of (self-)awareness. The self-reflective loop produced by decision-makings converts to self-reflexivity as soon as two conditions are met: certain level of self-awareness and one's recognition in 'the other'. The achieved self-reflexive stance and act upgrade the process of knowledge from the order of discovery and arbitrary invention to the order of creation and self-creation. The self-created identity and self-supporting knowledge are the minimal conditions for the emergence of the spiritual transcendence sense and the self-creative character of this spiritual understanding requires creativity as prerequisite. Herein lays one of the most essential queries for artificial intelligence design with the consequent essential questions: The self-creation spiral of future collective consciousness includes artificial intelligence as a means or as fundamental element? Artificial intelligence is part of spiritual evolution in Universe or just its co-generic companion? This article shows that the answer lays in the very meaning of Spirituality.

Keywords: Turing test, creativity, self-creation, technological singularity, religiosity

1. Introduction

The present article raises some question and arguments regarding the relation between intelligence, in particular artificial intelligence (*AI*), and Spirituality. My claims regard the possibility and potentiality of the strong version *AI*, and not the less important and less consequential aspects of the simulating aspect of weak *AI*. „The assertion that machines could possibly act intelligently (or, perhaps better, act as if they were intelligent) is called the 'weak *AI*' hypothesis by philosophers, and the assertion that machines that do so are actually thinking (as opposed to simulating thinking) is called the 'strong *AI*' hypothesis." [1]

Since its beginning, the debate over *AI* has been fierce and multifaceted. The possibility of 'more than human intelligent machines frighten some', whereas others were simply excited about such a possibility, as they do not take

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into consideration the possibly awful consequence of the end of the human species as is envisaged in the scenario of the imminent technological Singularity. One of the first and foremost debated tasks was the criterion for establishing when the machines will achieve the respective level of intelligence, i.e. the Turing Test. Robert E. Horn [2] has mapped no less than 800 major claims, rebuttals, and counter-rebuttals related to the Turing Machine Test. Most of the sound objections, imaged primarily by Turing himself, are still under debate: the Problem of Creativity, of Free Will (Lady Lovelace's Objection), the Argument from Irreversibility, the Infinitary Reasoning, the Mental Imagery, the Introspection [3] or the Mathematical Objection, to list just a few. I will not discuss various logic-analytical approaches and reasoning disputes, but I will stop, for a moment, at one of the most paradigmatic debates: the counter-arguments resulted from Gödel Theorem from the class of formal arguments [4].

2. Formal intelligence

This large class of arguments shows that the discrete state machine is proven to have some intrinsic formal limitations. The non-decisiveness of analytic reasoning is revealed by the following curious fact: from the same clause by which Gödel or Penrose had set the limits of any artificial intelligence, Turing and its partisan, which *want* to believe in the unlimited power of abstract intelligence, were able to derived the opposite philosophical conclusion. The same incompletes theorem supports two completely opposite conclusions! For Turing, the inferential power equivalence of human thinking to machines involves that humans are also incapable of demonstrating every statement, while for Gödel, because there is not mathematical truth that humans can't grasp, it implies that humans can't not be machines. For Gödel either "the human mind (even within the realm of pure mathematics) infinitely surpasses the powers of any finite machine, or else there exist absolutely unsolvable diophantine problems" [5]. The sound consequence of this situation is that the mathematical truth and reality could be grasped not only conceptually through deduction, but also by intuition and insight, totally independent from any formal proof. "Human mathematicians are not using a knowably sound algorithm in order to ascertain mathematical truth." [6]

On such advanced topic as human understanding, the scientific mentality of Formal and Natural Sciences is of little use also because it restricts most of the discussion and comparison at formal aspects and therefore a lot of energy and resources were wasted in vain. The *AI* challenge is a potentially self-creative issue where the belief could alter or even create the objective truth, both at its ontological level – the possibility of creating *AI* –, and on its reasoning one. In humans, the intelligence is blended with other processes of knowledge within consciousness – the high-order state and/or (self)knowledge of the mind. One of the most important aspects of consciousness, neglected in technical approaches, is its phenomenality, i.e. the first person account. From this perspective, the concept of Seed *AI*, as is promoted by its partisans, is only a sort of a

Disneysation of the human intelligence. They consider two pre-programmed qualities as being enough for creating an autonomous self-evolving program. "1. Coding the basic skills that allow the system to acquire a large amount of specific knowledge. 2. The system reaching sufficient intelligence, and conceptual understanding of its own design, that it can deliberately improve its own design." [7] As it will further become obvious, the requirement for understanding this particular feature undermines every singularitarian scenario. From the formal programming perspective, the studies on automated deduction show that it is impossible to guarantee in advance the consistency of abstract spaces. It will be always a consistent set of axioms whose abstraction is inconsistent, and the inconsistence of any abstract spaces, abstract reasoning, should be dealt during the runtime [8]. Returning to Gödel, his argument states that self-reference will bring about inconsistency in any logical machine that could not function if it can't learn from experience and be creative. The inconsistency of automated deduction (e.g. problem solving, planning, logic programming), cognitive modelling and learning drive any formal system in general (production systems, natural deduction systems, or refutations systems) to breakdowns, unless it gains other features beyond this self-referential inconsistency for maintaining the identity of its goals.

Another essential function of intelligence is its ability to be taught and learn and not to behave in an automated pre-programmed fashion. The present working paradigm on intelligence limits it to the cognitive ability to successfully respond to new situations and to learn from experience. Although many types of intelligent behaviour are recognized: naturalist, musical, logical-mathematical, existential, interpersonal, bodily-kinesthetic, linguistic, intra-personal or spatial [9], these are less conceptualized and almost completely unemployed in daily practice and researches. Moreover, a spiritual, existential or moral intelligence seems beyond our present way of (scientific) understanding.

The forecasted Technological Singularity, the critical point for autonomous development of the Technological System, is questionable as long as technological intelligence is essentially (pre-)programmed. Even so, genuine flaws are hidden within the arguments of singularitarian believers. For example in the Cyberiad Test the technological intelligence is conflated with organic intelligence and Nature (!) is invoked for judging the viability of this hypothesis. The Cyberiad Test [10] would be passed by a robot (computer, android, etc.) only if it is part of a (quasi-autonomous) 'society' of self-replicating robots able to sustain themselves as a species over time. The technological singularity should be totally different than whatever was in the entire evolution of mankind, but its sustainability is tested in an evolutionist manner. But this original criterion reveals another important aspect: the peril of any enclosed specialized reasoning. Being designed to answer a formal question from the perspective of formal analytical thinkers, The Cyberiad neglects other essential possible consequences: the question of perverse incentive. The thinking implied in Cyberian test is more hazardous, dangerous and foolish than would ever be the 'dangerous' idea of *controlled moral enhancement* proposed by Julian Savulescu

[11]. The technological future of mankind can't be thought and gambled in such primitive terms.

This situation is due to the fact that the Turing Problem is usually analyzed in the *wrong context* and from the perspective of a *pragmatic natural thinking* in a fully *engineered environment*, while the problem of an *aware* intelligence is first and foremost a matter of phenomenology. What is at stake is not the material aspect of simulating intelligence or if we can make human-like robots – a Disney cartoon image, but the problem of the first and second person account ability. Unfortunately, in the study of consciousness, the first [12, 13] and second [14] person methodologies are just twisting their way through the consecrated third person of scientific inquiry. Such first-person scientific study of subjective states is proposed, among others, by David Chalmers, John R. Searle, Thomas Nagel, Joseph Levine or Steven Pinker [15]. Their shared conviction is that "consciousness has a first-person or subjective ontology and so cannot be reduced to anything that has third-person or objective ontology. If you try to reduce or eliminate one in favour of the other you leave something out." [16] Regrettably, the spectacular advances of neurological technologies left far behind the study of the consciousness' lived experience, and hence the belief in the possibility of a disciplined approach to the investigation of conscious experience at personal level, by means of introspection, phenomenology, and meditative psychology [17, 18]. In the absence of such rigorous scientific approach any judgment on the development of computers that are 'aware' and superhumanly intelligent is a guessing claim. There is no doubt that, in time, being a man-made creation, the *AI* entities might surely be able to match our abilities and surpass (almost) any of the human feature, even any Turing-like test. Although computers will be able to do everything, they can't be everything, for example, persons [3].

I claim that the Turing test, if it where a significant and not only a formal thinking exercise, should be based on substantive philosophical foundations laid by the *Cartesian doubt* and the *Kantian transcendentalism*. The Cartesian doubt had set the formal condition for human intelligence: being human equal being self-reflective, and also being self-reflexive. Furthermore, Kantian Criticism had set the substantive (embodying) condition: the conditions for the possibility of experience are transcendental Intuition (Senses), Imagination and Apperception. Hence, *intelligence is a (self-)conscious, embodied, goal-oriented ability related to organic life within material environment*. In other words: "(a) mental activity directed toward purposive adaptation to, selection and shaping of, real-world environments relevant to one's life" [19]. The issue of the high-level order of intelligence and consciousness may be simulated or replicated in non-organic devices or entities is a different matter, but is irreducible to intelligent behaviour which represents only the instrumental aspect of intelligence, and this matter poses no problem in respect with the predicted evolution toward a supposed Technological Singularity.

If we combine one of the broadest perspective on intelligence as being a general ability of "a goal-directed adaptive behaviour" [20] with the information processing perspective from *AI* engineering ("the resultant of the process of acquiring, storing in memory, retrieving, combining, comparing, and using in new contexts information and conceptual skills" [21]) we understand why the Strong AI believers are so enthusiastic with the future perspective of such caricaturized image of human intelligence [22]. Although this perspective meets the standards for an 'objective' definition of intelligence in measurable and observable terms, it is about an entirely depleted and desolated concept, far from the richness and complexity of what human intelligence is.

The ability of being creative and not only producing complex outcomes is another key question for *AI*. The explanations of the human mind and its creativity in terms of computational psychology (to the extent that such task is possible and does not represent only the computational analogy of everyday rationalization) create a false impression. It lowers creativity to some heuristic ways within a structured space of computational possibilities [23]. It tries to make us believe that we are in the possession of the true and entire explanation of human mind creativity, while it provides only a poor sketch of it. Such perspectives instead of increasing self-knowledge, often lessens the human mind to the level of a randomness alternatives and a chaotic determinism. The nowadays fashionable computational model is only the present counterpart of the former positivism, both of them claiming to explain everything in their so-called accurate and objective terms and promising to offer the true (scientific) knowledge. It is only one of multiple alternative ways of re-presenting, re-creating and understanding (or maybe, knowing in this case) the reality. The human being does more than acquires data and computes information for gaining knowledge (deterministic mono-linear processes). In addition, it is able, in addition, to undergo the multi-composite interpolative and probabilistic process of understanding and the extrapolative non-deterministic and non-probabilistic process of wisdom which both are irreducible to cognitive modelling [24].

So on the face of it, mathematical thought as it is actually produced is not mechanical at all: "(…) *understanding* is essential, and it is just this aspect of actual mathematical thought that machines cannot share with us" [25]. The fact that mathematical thought cannot even be re-represented in mechanical terms is the most significant consequence of Gödel's theorem, as Roger Penrose intended to prove. Moreover, understanding implies the re-creation of knowledge in the form of phenomenological identity of person, while wisdom represents a much higher level of thinking in values. "Thinking is not a simple reflection of the state of things." [26] We are saying the same things (*Information/knowledge*), but we mean different things (*Understanding*). We only can wonder about the Elliot's visionary poetic wisdom when he is deploring the present state. "Where is the Life we have lost in living?/Where is the wisdom we have lost in knowledge?/Where is the knowledge we have lost in information?" [27]

3. Neurophysiology

Human intelligence is anything but a computer-like system, neither in functional terms, nor in structural terms. It is driven by emotions, whereas the Turing test is based on a completely emotionless perspective. "Not until a machine can write a sonnet or compose a concerto because of thoughts and emotions felt, and not by the chance fall of symbols, could we agree that machine equals brain – that is, not only write it but know that it had written it. No mechanism could feel (and not merely artificially warmed by flattery, be made miserable by its mistakes, be charmed by sex, be angry or depressed when it cannot get what it wants." [28] Neurophysiology proves that human mind doesn't function as a computer. The cerebral configuration evidences prove the same computer dissimilarity. The different layers of humans brain (reptilian brain, limbic brain and neocortex systems wherever they are located in cerebral structure [29]), have *a triune functional structure* [30] which cannot be reduced to an electrically wired functioning algorithms.

The *AI* is conceived, developed and measured in the same manner as IQ test, because both share the same limited understanding of what intelligence is. But human intelligence covers a wider range of irreducible one to other cognitive abilities as short-term memory, reasoning and verbal component, and these differences in cognitive abilities are mapped onto distinct functional circuits in the brain network [31]. Even if the basic information processing components could be similar, human intelligence seems to use different modules according to different contexts and tasks. People differ a lot in their competence in intellectual giftedness in respect to analytical (componential), creative (experiential) or contextual (practical) sub-components of their intelligence [32].

As long as human mind makes use of heuristic procedures for reasoning, it could not be reduced to a computer-like mechanism [33, 34]. The modern neurophysiologic researches reveal that the structure of neocortex is no longer entirely modular and encapsulated as are the more primitive parts of the brain. These primordial systems can't sustain a sense of personal identity and elevate cognitive life. The way in which cognition is distributed throughout the cortex is not by discrete or isolated modules, but rather by gradual transitions from one function to another corresponding to continuous transitions on the cortical surface [35]. This 'gradiential' functioning of the brain is strongly related to the global brain function of *re-entry*: "the ongoing bidirectional exchange of signals along reciprocal axonal fibers linking two or more brain areas (which) serves as a general mechanism to couple the functioning of multiple areas of the cerebral cortex" [36]. This specificity in humans neural structuring of the brain, in particular the *re-entry* [37] and *degeneracy* mechanisms (the ability of elements that are structurally different to perform the same function or yield the same output) [38], seems to be the prerequisite for consciousness. The gradiential and inter-replacing functioning of different elements or modules of neural network [39], may be mandatory for sustaining awareness, as long as consciousness pre-supposes self-referential and self-reflexive capabilities. Similar with

anosognosia the machines don't know that they process, they compute, and they not think. It is the well-known case of Phineas Gage whose frontal lobes was destroyed and 'Gage was no longer Gage'. Although he has preserved its intelligences as well as his abilities to see, to talk or move, he lost his core part of its being without knowing it (as all patients with severe damage to the frontal lobes) and lessened its decision-making abilities [40]. The overconfidence in an expected tremendous evolution of *AI* is supported by a long the illusion rotted deep in Western culture. The primacy of the intellect over the emotion, seen as impediment, goes back from Illuminist traditions and far back to Aquinas. But this ancient cultural representation is contradicted by current findings in neurophysiology. In human brain is not a clear distinction between thoughts and emotions they are intertwined: if a region has been found to play some role in emotion has also been connected with some aspects of cognition [41].

4. Self-reflexivity

Another critical point of *AI* conceptions is the fact that machines don't make decisions, they simply follow procedures. They are passively submitted to pre-programmed algorithm(s), although these could be very complex and flexible or even self-improving. But this improvement is simply development, not evolution. The (human) will is an organic higher-order super-construction and implies non-cognitive elements such as volition, emotion, instinct, etc. The ecological relationship between self and environment resulted in evolution: the transformation of the fundamental drives and principles of the organization of the species. In nature, the complex organic systems arise by virtue of their progressive adaptation. Organic beings correct themselves by virtue of feedback loops and therefore evolve. The human intelligence is not limited to the conscious decisions; it involves self-reflection and volition as well. "Self-reflexive consciousness seems to emerge only at the level of humans and some other large-brained mammals. Here the system's internal complexity is so great that it can no longer meet its needs by trial and error. It needs to evolve another level of awareness in order to weigh different courses of action; it needs, in other words, to make choices. Decision-making brings about self-reflexivity." [J. Macy and M. Brown, *The Holonic Shift and How to Take Part in It*, World Business Academy, 1994, http://www.joannamacy.net/the-holonic-shift.html]

Most of the Consciousness Theories converge to the same idea of its essential core of self-referring phenomenology. In the Self-representational higher-order theory of consciousness, for example, "a phenomenally conscious mental state is a state of a certain sort (perhaps with analog/non-conceptual intentional content) which also, at the same time, possesses a higher-order intentional content, thereby in some sense representing itself to the person who is the subject of that state" [42, 43]. The semantic (higher-order) meta-system which controls the first order intellectual perceptive and cognitive systems is not a simple replication at an upper level of the first, but is qualitatively different. It is able of creative solutions and processing, randomness and self-referentiality.

5. Self-transcendence

Self-reflexivity is the mind's prerequisite state for self-transcendence. The person should first attain the ability to evaluate his/her limits and realize his/her conditions of possibility before being self-reflective. The simple self-reference (the self-reflective) and self-reflexive stance (the self-reflexivity) should not be mistaken. The first one is a semantic relation where the object and the subject of knowledge are mutually related and limited cognitive or intelligent formal system falls unavoidably under the limitation of Gödel's theorem. Self-reflexivity is a *transcendental* state of mind with a strong *transcendent* dimension. Hence, it is not limited to the enclosed Cartesian rationalism or Kantian criticism, but entails an already transcended position. "*Much* is commonly made of restrictions of thought, of reason, and so forth, and the claim is made that it is *impossible* to transcend such restrictions. What is lost track of in this claim is that something is already transcended by the very fact of being determined as a restriction. For determinateness, a limit is determined as restriction only in opposition to its other in general, that is, in opposition to *that which is without its restrictions*; the other of a restriction is precisely the *beyond* with respect to it. Stone, metal, [or a computer!] do not transcend their restrictions, for the simple reason that the restriction is not a restriction *for them*." [44] This Hegelian transcendent intuition of self-knowing is the essence of the spiritual state of knowledge, the general meaning of Spirituality [45, 46].

6. Spirituality

Spirituality is "discovered in moments in which the individual questions the meaning of personal existence and attempts to place the self within a broader ontological context." [47] Spirituality refers to an inner, subjective and motivating experience that "makes us feel a strong interest in understanding the meaning of things in life" [48]. It engages the whole inner human potential orienting toward higher purposes, values and scopes.

From a psychological perspective, some authors [49] consider that spirituality actually represents a separate personality characteristic, independent of the other five factors of NEO-PI-R [50], while others claim that dimension correlates with some of them, like Openness to Experience [51]. As the above mentioned study shows, Spirituality and Religiosity are not necessary ones, and other studies attest they have different influence over people's personality. For example, Spirituality, more than Religiosity, is strongly related to mental health. It correlates with the Psychological Well-being expressed by Self-actualisation, Meaning in Life, and Personal Growth Initiative [52].

From the sociological perspective, spirituality is a cultural fact [53], the "the search for the sacred" [54], where sacred is not limited to God(s), the divine or supernatural, but is extremely broad conceived. "Sacred things are not simply those personal beings which are called Gods or spirits. A rock, a tree, a spring, a pebble, a piece of wood, a house, in a word, anything can be sacred." [55] It

should be understood as *functional*, transcendent *personal* experience with wholeness or upper realm, which engages the highest human potential, while religion is an organized and institutional compound of traditional, mundane and material practices [56]. Spirituality represents a multidirectional "search for existential meaning" [57] which lies beyond the personal self and daily understanding. Spirituality involves both human meta-needs: one for self-actualization and the other for self-transcendence. They equally involve creative abilities. One should be creative in order to have access to spirituality. One of the most accurate definitions of spirituality characterizes it as "the experience of *conscious* involvement in the project of *life-integration* through *self-transcendence* toward the ultimate value one perceives" [58]. I would say that *Spirituality is the felt need for self-transcending oneself in the way of self-creation (the absolute form of self-actualization).* In this matter and at this level, we see how trivial the beliefs of the singularitarian and strong AI supporters have become. Spirituality is the human being's need for self-creation by understanding oneself. A real understanding, and not an (self-)deceptive which should encompass all conditions of possibility: the Self, the Nature, the Other and the Known. It is a process of self-understanding oneself as actualized and transcended, re-created and re-inserted as conscious of what made him/her to be.

7. Tech-Singularity

The possibility of an autonomous self-chosen path of development for technological progress is a childish hypothesis. The human being has ideals. These are some of his/her fundamental drives. From the perspective of the systems theory, such behaviour could not be pre-programmed and is not reducible to procedures of state-maintaining, goal-seeking, or multi-goal seeking systems. It is a particular class of a purposeful system with chosen behaviour as well as variable results. The ultimate goal is this self-actualization propriety, which is impossible without the self-transcending one. Organic and above all human beings seem to be special designed for such self-improvement. If we accomplish a task or attain one of our objectives, the satisfaction state will endure only for a short period and soon we will seek another one more closely to such an ideal. This programming strategy should enclose 'perfection' and 'ultimate desirable' concepts [59]. Moreover, the drives of such relentless state are not just cognitive or rational, but they are, at least, reinforced by emotional and organic aspects. "The capability of seeking ideals may well be a characteristic that distinguishes man from anything he can make, including computers." [60] Without such self-created ideals, utopias, man descends to the level of things. With no ideals, the human being, the absolute rational master of the reality, becomes a simple creature of impulses [61]. It is obvious now why the absolute rational ideal/computational utopias bring about paradoxical degradation. That's why, for the future of Mankind, the singularitarian problem of *AI* explosion and the substitution of human intelligence is a false one, although this fashionable fairytale of the current century is presented as

unavoidable. The *AI* is fundamentally different from human intelligence and they are comparable only in respect to some of their components. With no ideals a self-oriented, self-purposed evolution is impossible.

But even if the Singularitarian question is a bogus one, it could have a more concrete and dramatic sense. People rely more and more on *AI* for easing their cognitive tasks from memorizing phone numbers, addresses to data mining, calculus, and decision-making algorithms. Consequently these competences distort and atrophy in time. On the other hand, as people's thinking relies more and more heavily on *AI* processing, heuristics and data presentation, their cognition will adapt and be shaped in this form which limits and deepens the cognitive dependence. As long as the progress of *AI* is an open-ended process and the primeval human desire for comfort prevails in time the singularitarian question is set inverted: *The peril is the people would become more stupid then* AI *and not that* AI *will become smarter than human intelligence*.

8. Tech-Spirituality

Nonetheless, the real challenge will be represented by the evolution of the relation between Spirituality and Technology, in a high-tech incorporated and embedded world: Tech-Spirituality. In the last half of century, the world in which we live has profoundly changed. Digital revolution and high technologies virtualized a great part from our life. It makes our life easier, it responds to our cognitive superior needs, but also makes us dependent on the high access to information and technological support. At the same extent in which it has brought together people from all over the world and sustains communication, the Internet keeps them separate by a mediated and distorted virtualized communication. It is said that people can now choose to be anyone they want, but being anyone means being nobody.

Short term side-effects caused by the too rapidly speed of advancements, environmental deterioration, population explosion, and the acceleration of change bring generalized stress on individuals and society, information overload, fragmentation and erosion of the value systems. "One of the biggest problems of present society is the effect of overall change and acceleration on human psychology. Neither individual minds nor collective culture seem able to cope with the unpredictable change and growing complexity. Stress, uncertainty and frustration increase, minds are overloaded with information, knowledge fragments, values erode, negative developments are consistently overemphasized, while positive ones are ignored. The resulting climate is one of nihilism, anxiety and despair." [62] In these circumstances, the New Technological Renaissance Man proposes an evolutionary cybernetic New Enlightenment. But this is an expected deed as long as spirituality is about the serenity of believed knowledge.

Concomitant with this optimistic vision of Mankind's distant future there reside the more pessimistic immediate future anticipations. The latter one lies under the inauspicious 'Bermuda triangle of extinction' of the unbalance

between technology, politics and morality [J. Savulescu, *Unfit for life: Genetically enhance humanity or face extinction*, presentation on Festival of Dangerous Ideas, Sydney Opera House, October, 2009]. In the first place, radical technological power is a great peril because of the high probability of mass destruction: millions will have access to such tools, easy to produce significant harm, while the number and predisposition toward sociopath and psychopath conduct is increasing, not to mention the increased risk of starting a nuclear catastrophe. Secondly, there is the problem of instability characteristic to the dominant (and unavoidable? [63]) political system of liberal democracy. In a world of radical technological advancement, it enables the access of violent minorities to the means of mass-destruction and provides a poor basis for cooperation and coordination at a global level. Finally, there is the problem of the primitive nature of human morality limited to small groups and kinship, which fails to assist and co-operate (the tragedy of the commons) with unfamiliar persons and which, above all, is easily overwhelmed by selfishness. But, instead of forcing people to be good using such hazardous and long-term (socially) unpredictable measures as moral genetic bioenhancement [11] or morality pills [P. Singer and A. Sagan, New York Times, January 28, 2012, http://opinionator.blogs.nytimes.com/2012/01/28/are-we-ready-for-a-morality-pill/], natural and humanist solutions should be envisaged. Although these should be especially realistic (and not limited to usually empty ethical and pedagogical pompous pathetic discourses), they not must be such cynical and extreme as the above mentioned evaluation recommend. The good things often pass unseen within the anxiety that any change brings along.

9. Tech-Religiosity

The most important thing for our topic is the fact that "if this digital revolution is altering civilization, it will also impact our metaphysical imagination, the basic building blocks of our experience" [64]. In a high-technological advancing world, spiritual enlargement gains new dimensions and meanings. Unfortunately the spiritual dimension of this unprecedented technological level goes unnoticed. To understand this subtle spiritual enlightenment, we could think that the cotemporary computer revolution is to be found in the spiritual freedom movement of the sixties, with all its genuine and artificial, healthy and degrading aspects [65]. Both share the same fundamental drive to liberation, decentralization and personalization [66], i.e., spiritual development. While the former preached the return to Nature and to the genuineness of humanity, the latter promotes the emancipation and advancement of mankind abilities and potential. The question is a practical one: online churches could replace traditional houses of worship and the technological mediated? Online communities are able to preserve our ability to profound communion and make commitments? For example, both Buddhism and Orthodoxy promote the silence of the senses, the peaceful meditation and prayer

as their basic notions of spiritual contemplation which is unbalanced by the 'image, sound and ideas pollution' of new media all-encompassing environment.

On the other hand, the transcendent aspect of Technology unfastens new possible perspectives over the future of mankind. Its peculiarity could be better understood in analogy with the state of religiosity. The "religious life is a distinctive form of life in the Church" [S.M. Schneiders, *Religious Life in The Future*, USG/USIG Sponsored Congress on religious life, Rome, 2004], an alternate world and it does not represent merely living differently within the world. At the same time, "cyberspace may not be physical space, but it is very real. Our experiences using computers and the Internet are equally real, as are the people we meet online." [67] We are *going*, *visiting*, *entering* and *moving* in cyberspace. It is a veritable world, an unimaginable medium which frees our minds, expands our horizons, and allows us to become more human than ever. But it could also overwhelm and suppress our personal nature. The traditional institutional embodiment of Spirituality, the life in the Church, has at least as much ontological distinct status as with virtual reality or cultural weltanschauung. And here a new key question about the institutionalized procedures of practicing religious spirituality arises. Let's take the Christian communion or worship services: could the holly sacraments be fulfilled by the means and within of an Internet community? And the answer to this question is just a matter of political decision, of tolerance and adaptation or it is one of the genuine ontological compatibility?

Regardless of the answer, the spiritual, either religious or laic, is a fundamental and distinctive feature of the human being, and is the one which ensures the balance of civilization progress. The present high pace of technological advancement is not accompanied by a cultural equivalent or spiritual evolution and this jeopardizes the future of human species. Religion and cultures have always had a vital symbiotic relation. The religious form of spirituality had guaranteed, in the past, moral control – the vital condition for the survival and advancement of our species. The modern age reveals that only the institutionalized part of religiousness could not ensure this in the absence of Spirituality [50]. On the other side, "there is an absolute limit to the progress than can be achieved by the perfectionment of scientific techniques detached from spiritual aims and moral values" [68]. On the contrary, the development of technology without limits and without understanding, with its long-term and complex consequences at all levels of our physical body, our social relations and our mentality, can't be labeled as an evolution in civilization. It is rather a preposterous expanding of artifactualness, at the expense of human evolution, and this is wrong.

But as I stated elsewhere [69], technological progress is not a problem *per se*, but only the technological mentality will be the one which will put in peril the human civilization. The danger comes from the specialized, narrow, technical engineering mentality that feeds the illusion of full replaceability, overall convertibility and prevalence of artificial perfectibility over natural plasticity. "It will be always difficult to decide on the merits of pessimistic and

optimistic spiritual interpretations of technology. For every new power and possibility that technology brings, it could be argued that technological progress takes away other components of humanity. For some to survive in the stressful world of high tech, there may be a great need for the enduring legacies of spiritual practice. The new edge of technology may need the new age of reviving of spiritual practice. Without them, we may not be able to survive." [64] This short-sighted and self-sufficient mentality is comfortable but dangerous. A future oriented thinking with no transcendent ideals and spiritual struggle is a dead-end evolutionary path.

At this point, the importance and relevance of Spirituality, the way in which it is thought and conceived, how it is felt and created, becomes vital. And here I am not talking about the primitive anthropomorphic cognitive construct which offered, and still offers, for many people the illusory security from the threatening environmental elements. I am talking about Spirituality as the experience of transcendence of a conscious entity, a sense of affective intelligent wholeness, and a wholeness that is felt as a purified state of apprehension and unifying understanding. The self-reflexive knowledge and action toward the world is reflected and creatively self-determines the agent. On a certain level of species development, the evolutionary path becomes self-sufficient and self-controlled, which is, from a long-established perspective over evolution, almost completely devoid of exogenous control. The future is entirely in the own hands of the human species. But the self-reflexive spiral might be further developed at a collective level up to the point of *transcendent* wisdom, or could be weighted and deviated toward an unpredictable technological singularity. A self-reflexive (co-)reflection could (self-)fulfill the requirements for ensuring safe sustainable future evolution but only reinforced by a genuine spiritual commitment.

Regrettably, the traditional Science could not conceive the possibility of the existence and manifestation of consciousness subjectivity as a mandatory element for a fully objective theory. Even today transcendentalism is not rightfully accepted in its entire self-evidence. But the history of science shows there are more things in Heaven and Earth than was ever dreamt of in its own philosophy. Ultimately, there may be intelligences on the horizon that we don't even know about. One candidate that has emerged for consideration is the spiritual intelligence (as well as the moral or existential ones). But, as long as it doesn't meet the technical criteria for a scientific question [70], it doesn't exist. Does it?

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