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Opinion

Avoiding Existential Conflicts with Hyper Intelligent Computers

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Abstract - This Article presents my vision of the future where existential conflicts with intelligent computers and networks will be mitigated by the evolution of the human race from the intelligent people who invented the 'dumb' computers in the 1940s, to the smart people of 2010s who created 'artificial intelligent' computers (see reference [1]), and who through bioengineering built superhumans to face super-intelligent computers by 2040 [2], and to the builders of the future Hybrid humanoids (with organoid brains) who will evolve before 2100 to avoid conflicts with Hyper intelligent computers and of the Android robots (loaded with Avatars of humans) capable to deal with the omnipresent adversary distributed networks (Divergent networks).

Keywords - A.I.; Future intelligent machines; Human - Super-intelligent computers conflict.

1 Introduction

The purpose of my research is to explore viable methods of avoiding potential conflicts between humans and the future Hyper Intelligent computers, yet to be imagined and created and with adversary Divergent Networks.

Intelligence is the faculty of thinking, reasoning, acquiring and applying solutions to problem solving. Intelligence attributes are extended to learning, perceiving, comprehending, and remembering past experience.

The imminent arrival of Hyper intelligent computers is predicted to impose major changes to human society in terms of research and development, manufacturing, education, genetics, economics, government, and the structure of human society.

I predict that humanity will split into self-sufficient colonies across the solar system and subsequently the galaxy, which will either reject any form of coexistence with societies controlled by intelligent computer systems or coexist with extraterrestrial civilizations sharing similar eco systems to Earth's. The key factor being the defined purpose of the existence of such colonies. Beside intelligence, humans share values which are more or less unique to them such as benevolence, spiritual enlightenment, compassion, contemplation, ecstasy, humility, self-empathy, and the taste for refined culture and aesthetic perfection. What makes humans superior to any existing or future intelligent computers is human curiosity, creativity, and the unpredictability embedded in their genome.

By 2010 a new generation of Artificial Intelligent computers and applications, were developed offering major benefits for humanity, but also raising concerns in regard to their misuse and the difficulty to control their usage after becoming operational. Despite these concerns, the befits to humanity are overwhelming, which justifies major investments in new research on Super Intelligent computers. It is expected that by 2040 Super Intelligent computers will take over most activities from research to manufacturing and from banking to education. This expansion will create the foundation for an even greater technological advancement, namely the development of Hyper Intelligent computers (see Fig. 01).

Artificial Intelligent (AI) computers emulate human behaviour and functions in order to surpass a person or achievement, typically by imitation, at a later date.

Super Intelligent (SI) computers simulate human behaviour, processes and systems that exist in the real world and by becoming conscious of their own existence, could replace humanity for its own reasons.

Hyper Intelligent (H.I.) computers are oblivious of humans who could destroy or use them for their own reasons and bypassing human ethical constraints which are meaningless for them.

Divergent networks (D.N.) of intelligent computers which control all aspects of human society and may endanger the existence of humans.

2 Legends from the future

Humans have the capability to imagine situations, objects and events which may or may not exist, the Present being just an instant transition from the Past to the Future (straight arrow). We see the Present as an Infinitesimal Transition between Past and the Future where anything we do in the Present becomes part of the Past and everything, we want to do will be part of the Future.
We can imagine a storyteller in the year 10,000 A.D. addressing his audience using direct telepathic channels about the distant past (of our time). The context of the story is an apocalyptic era of humanity in which the legendary ancestors were using an artificial form of exchange, called money, to pay for goods and services needed to produce the energy used for living. It was also a time when children were playing virtual war games on computers while their parents were conducting real wars to obliterate real or imaginary enemies. War stories could encompass the access to resources, or expanding the living space, or to get Helen of Troy back, or to escape from the magic of Circe or how to swindle Didona, the queen of Cartage, over a piece of land not bigger that a shredded cow skin.
Our primitive ancestors were not yet capable to control the weather, or the harvests, or the survival of those species of animals or plants used for food. The uncontrollable plagues from antiquity (bubonic plague, measles, polio, flu, tuberculosis) were replaced by human engineered ones ('foot-and-mouth', AIDS, SARS, COVID-19). Humanity had a precarious existence, being exposed to existential threats like nuclear wars, misuse of intelligent computers, overpopulation, droughts, tsunamis, volcanic eruptions, and possible collisions of the Earth with meteorites and comets.
From the depths of the XXI century apocalypse a new generation of heroes appeared, like Hercules, who killed the hydra from Lerna, like Prometheus who stole the fire from Hephaistos and gave it to humans, like Ulysses who crossed the seas on his way back home to Ithaca.
The modern heroes are those who created the space travel engines capable to instantly reach other planets, solar systems, and galaxies by bending space-time continuum. crossed the Universe to colonise new worlds and met alien civilizations. Little kids have been hearing in awe the adventures of 'Star Trek' and of the starship Enterprise, of 'The Masters of the Universe' and of 'The Ninja Turtles'. The legends of Superman, Spiderman and Wonder Woman, were told to each new generation over the millennia, and from infancy, these children dreamed to be like the heroes from the long forgotten past and fight villains like the Joker, general Zod or Metallo.
Visitors from our time would see the world as a strange place. Superhumans would be reproducing mostly by IVF or cloning since intercourse will be considered solely as a form of entertainment. Genetic manipulation would have eliminated any illnesses and genetic defects. The human race

continues to give birth to children who grow into adolescents, mature, and die of old age. Besides the Life Spirit, children are the essential difference between humans and robots.

Malthus' theory [1] explained that human population grows more rapidly than the food supply until famines, war or disease reduces the population. The solution to the overpopulation problem was resolved by our highly intelligent descendants with interplanetary relocation programs and the eventual colonisation of other worlds.

As so many times before, nature will prevail, and humanity will survive.

This statement may sound as a platitude once bioengineered Superhumans and Hybrid humans equipped with organoid brains are replaced by Avatars living in the digital world and further by Android robots equipped with human intellects but no organic matter.

I theorize that once organic based humans are no more, the omnipresent creator, the nature, will lose its perception of reality and role in the human society and be replaced by a virtual reality driven by algorithms and supported by information.

This is a bold empirical hypothesis based on epistemic justification analysis that there are not prior reasons to oppose the possibility of existence in a digital reality. Vopson [2], in his book Reality Reloaded [3], offers solid scientific explanations about Information as the 5th form of matter and discards speculative approaches and postulates the possibility of a Simulated Universe populated by digital programs (Avatars) simulating live beings. The subject of reality is further discussed by Umberto Eco [3] in his book 'Travels in Hyperreality'. Eco explains how humans seek to preserve and celebrate the past in the form of memories and mementos as an aspect of reincarnation where the boundary between FAKE and REAL becomes blurred by the detailed duplication of reality by fakes, fantasy becoming in some cases even better than reality. My analysis makes a distinction between explicit and implicit reasoning about the role of nature in a digital world driven by algorithms and information content.

3 What comes after Super Intelligent computers?

The rapid technological developments and the intelligence explosion, over the past two centuries, opened the path to the development of Super Intelligent computers which outperform Artificial Intelligent ones and humanity in terms of Processing Speed, Collective intelligence, Cognitive level achieved and Quality of Intelligence (editing, duplicating, coordinating, memory sharing and creation of new algorithms and intellect modules).
Recently, Scientists have combined an A.I. computer with a 'Mini brain' consisting of brain tissues grown in a Lab, to make a Hybrid computer. By the time a full brain will be loaded into a computer brain, either as information or as a biological attachment, the first Hybrid humans will reach maturity. The organic brains of Hybrid beings are loaded with mature intellects. Hybrid intelligent computers (Organoids) [4] equipped with brains grown in laboratories will precede Android robots loaded with

[1] Rev. Thomas Robert Malthus FRS (born: 13 February 1766 – died: 23 December 1834), British writer on political economy and population. He popularised the economic theory of rent, and was the first to use the phrase struggle for existence. He thought that the dangers of population growth would prevent endless progress towards a utopian society: "The power of population is indefinitely greater than the power in the earth to produce subsistence for man".

[2] Melvin M. Vopson is a Romanian born British academic working at the University of Portsmouth. He made important contributions in Solid State Physics and Information Physics. He also founded and is the acting CEO of the Information Physics Institute

[3] Umberto Eco (born: Jan. 5, 1932 – died: Feb. 19, 2016) Italian professor of medieval history in Bologna. His career as an author began with The Name of the Rose in 1980, after he had already written many academic papers on Semiotics, the study of Signs and Sign using behaviour including 'Conversations about the end of time' – Penguin Books, Umberto Eco, 2,000 and 'Travels in Hyperreality' – Picador Books, Umberto Eco, 1973.

[4] Hybrid computer with min-brain. Neuroscience, Rebecca Sohn, Dec. 13, 2023. The 'organoid' changes in response to stimulation from electrical signals explains our ability to learn and brings us closer to building 'biocomputers' using among other things ethical constructs and a technique called 'reservoir computing'. Lab-grown mini brains will be used as 'biological hardware' to create new biocomputers. The researchers used a technique called reservoir computing; in this context, the organoid serves as the "reservoir" which stores information and reacts to information that's inputted. An

the intellects of Virtual beings (Avatars) [5]. The Avatars themselves being digital representations of humans living in digital domain of existence. They will perpetuate the human existence from a biological form to a digital information form transmitted from one generation to another through the ages.
On Monday, 11 Dec. 2023, in the journal Nature Electronics, researchers from Indiana University in Bloomington led by Prof. Feng Guo [6] confirmed that they have been able to integrate a 'mini brain' built from organic matter ('organoid') with computer hardware to process electrical data in an attempt to decipher its inner activity to produce an output.

During its evolution over the Ages, human society has survived many global disasters and existential changes (domestication of fire, farming, industrial and the I.T. and Internet revolutions). Now we must deal with threats from Quantum computers, the explosion of Super Intelligent computers and of the existential dangers posed by unknown future Hyper intelligent (H.I.) computers.

I predict that the evolution of human intelligence to artificial intelligence, to super intelligence and beyond into unimaginable forms will continue and a balance between organic and non-organic beings will be reached by nature. How the future Hyper Intelligent computers will look is still science fiction today, but such conscious devices will not look like the little green men blamed for human abductions, or the aliens using human bodies as hosts, or bioengineered replicants taking over spaceships or planets.

· In science fiction, the future H.I. computers may be the products of human technological evolution or be built and dispersed throughout the galaxy by superior civilizations that may already exist among us since the beginning of Time in forms undetectable and unrecognizable by humans.
· The future H.I. computers would have all the abilities associated with Quantum entanglement (telepathy) and superimposition for remote communications, teleportation for instant travel, telekinesis for moving objects at planetary, solar system and galaxy levels, mind control and levitation.
· Bostrom [7] suggests that by using Human Templates (inheritance) or programmed Instrumental Convergence, intelligent computers may share with humans the same objectives in achieving self-preservation, content integrity, cognitive enhancement and acquisition of reserves.
· The H.I. computers should be capable to auto-repair themselves using nano-constructs, replicate and clone themselves to preserve existing knowledge, colonize space to secure power over nature and its assets, to survive extreme temperatures and to defend themselves against external threats.

The idea is to transfer human identity, personality and consciousness into intelligent computers like the Von Neumann's [8] Probe replicating devices, which will share the physical advantages provided

algorithm learns to recognize changes triggered in the reservoir by different inputs and then translates these changes as its outputs. The researchers plugged the brain organoid into this system by supplying it with electrical inputs delivered through electrodes. "Basically, we can encode the information — something like an image or audio information — into the temporal-spatial pattern of electrical stimulation," said the study co-author Feng Guo.

[5]Avatars (iterators). What are Virtual beings? Jaron Lanier, Article Nov. 15, 2022. The metaverse is a term referring to virtual worlds in which users represented by Avatars interact, usually in 3D and usually focused on social and economic connection.

[6]Feng Guo (Dr) is a structural biologist and biochemist who joined the UCLA School of Medicine faculty in July 2004. He earned his B.S. in Biophysics at the Nankai University and M.S. in Physical Chemistry at the Peking University, both in China. Dr. Guo received his Ph.D. in Biochemistry and Biophysics at the University of Pennsylvania in 2000. In graduate school, he studied the Cre-loxP site-specific DNA recombination using X-ray crystallography. He was a postdoctoral fellow with Dr. Thomas Cech at the University of Colorado at Boulder, where he worked on the thermostability and crystal structure of large ribozymes.

[7]Nick Bostrom (born in 1973 in Helsingborg, Sweden) is a philosopher with a background in theoretical physics, computational neuroscience, logic, and artificial intelligence. He is one of 21st century most brilliant minds and the most-cited professional philosopher in the world under the age of 50. Superintelligence: Paths, Dangers, Strategies published on 5 May 2015 by Director of the Future of Humanity Institute Nick Bostrom (Author).

[8]John von Neumann (born December 28, 1903 —died February 8, 1957). Hungarian-born mathematician Von Neumann probes. A von Neumann probe is a spacecraft capable of replicating itself. It is a concatenation of two concepts: a Von Neumann universal constructor (self-replicating machine) and a probe (an instrument to explore or examine something). He integrated pure and applied sciences while making major contributions to mathematics, physics, economics, computing, and statistics. He was a pioneer in building the mathematical framework of quantum physics, in the development of

by the computer 'Host Probes'. In this form, humans will be able to travel across galaxies without being affected by time travel, to develop new habitats and extract valuable mineral resources from remote planets, while treating intelligent computers, lacking human consciousness, on equal terms and even from a position of strength.

4 Why Hyper Intelligent computers may consider Humans as a threat?

A conflict of apocalyptic proportions between humans and H.I. computers may look like the war between Zeus [9] and Titans [10] where the unexpected actions of the gods (humans) overcame the overwhelming powers of the titans (H.I. computers).

This paradigm is changed however since the H.I. computers (Titans) have been initially built by Humans for useful purposes. They may see these humans as an Existential Threat if they only consume resources (energy, space, etc) without producing anything of value for the H.I. computers in terms of sustainability, unchecked overpopulation and environmental destruction.

Could an existential conflict between H.I. computers and humans be avoided for as long as H.I. remain oblivious of humans and humans do not compete for resources (energy, minerals, space, etc) with the H.I. computers?

I have extracted a few conclusions from reading Superintelligence, the masterpiece written by Nick Bostrom. His idea to control an S.I. once it has achieved awareness and personality is to limit the general domain of Intelligence and focus its know-how on specialised tasks with minimal or no external interferences. Since control of H.I. computers is just a 'wish' today or a dream sustained by humans' assumptions, I suggest that the threat perception be replaced by humans becoming essential existential partners to H.I. computers by being able to provide anything H.I. computers cannot construct, or get without us. What the future H.I. computers cannot get is the motivation to exist beyond achieving non anthropomorphic Goals and Objectives. Beside the destruction by cosmic cataclysms or human actions (EMP radiation, nuclear war, depletion of resources), the biggest threat to future H.I. computers will be human unpredictability, curiosity and creativity. To destroy Humanity may appear to be justified, but to make Humanity contribute to the future advancements of H.I. computers may be more productive.

5 Evolution and Classification of Humans

My classification of the correlation between the force of gravity and intelligence implies that the powers of various civilization throughout the Universe depend upon their adaptation to the gravitational forces existing in their eco systems. Here is a classification based on the levels of Intelligence and their effects on the Universe:

a. Intelligent humans and 'dumb' computers – act at the living ecosystem level
b. Smart humans and Artificial Intelligent computers – act at the planetary level
c. Super humans and Super Intelligent computers – act at the Solar system level

functional analysis, and in game theory, introducing or codifying concepts such as the cellular automata, the universal constructor and the digital computer. His analysis of the structure of self-replication preceded the discovery of the structure of DNA.

[9] Olympian Gods (Zeus and his siblings) fought a ten-year series of battles in Ancient Thessaly, consisting of most of the Titans (older generation of gods, based on Mount Othrys) fighting against the Olympians (the younger generations, who would come to reign on Mount Olympus) and their allies.

[10] Titans in Greek mythology were immortal deities, considered the first generational gods born from the primordial gods, Uranus, and Gaea. Zeus and his Siblings fought the Titans and banished them to Tartarus. Gaia (the Earth) and Uranus (the sky) were the parents of Kronos (the time). To prevent the prophecy of being dethroned by his children Kronos (Cronus) ate them immediately after birth with the exception of Zeus (Jupiter) who was replaced by a stone and hidden in cave in Crete by his mother Rhea, the wife of Kronos. Zeus fed a concoction to Kronos which forced him to vomit his children. Zeus and his Siblings defeated Kronos and sent him to Hades (Tartarus or Hell) for eternity.

d. Hybrid humans and Hyper Intelligent computers – act at the Galactic level

Fig. 1 shows the parallel evolution of humans (intelligent, smart, super and Hybrid) and computers ('dumb', Artificial, Super and Hyper) and highlights how Hyper computers once the 'emulation' and 'simulation' phases are completed will reach the 'oblivion' phase.

For example, Intelligent Humans, creators of 'dumb' computers and Smart Humans, using tools like Artificial intelligent computers, have adapted to live an average life span of 80 to 90 years, in a gravitational field of 1g, which enables them to exercise powers at the planetary level (mining, agriculture, medicine, changing riverbeds, poisoning the Earth, etc).

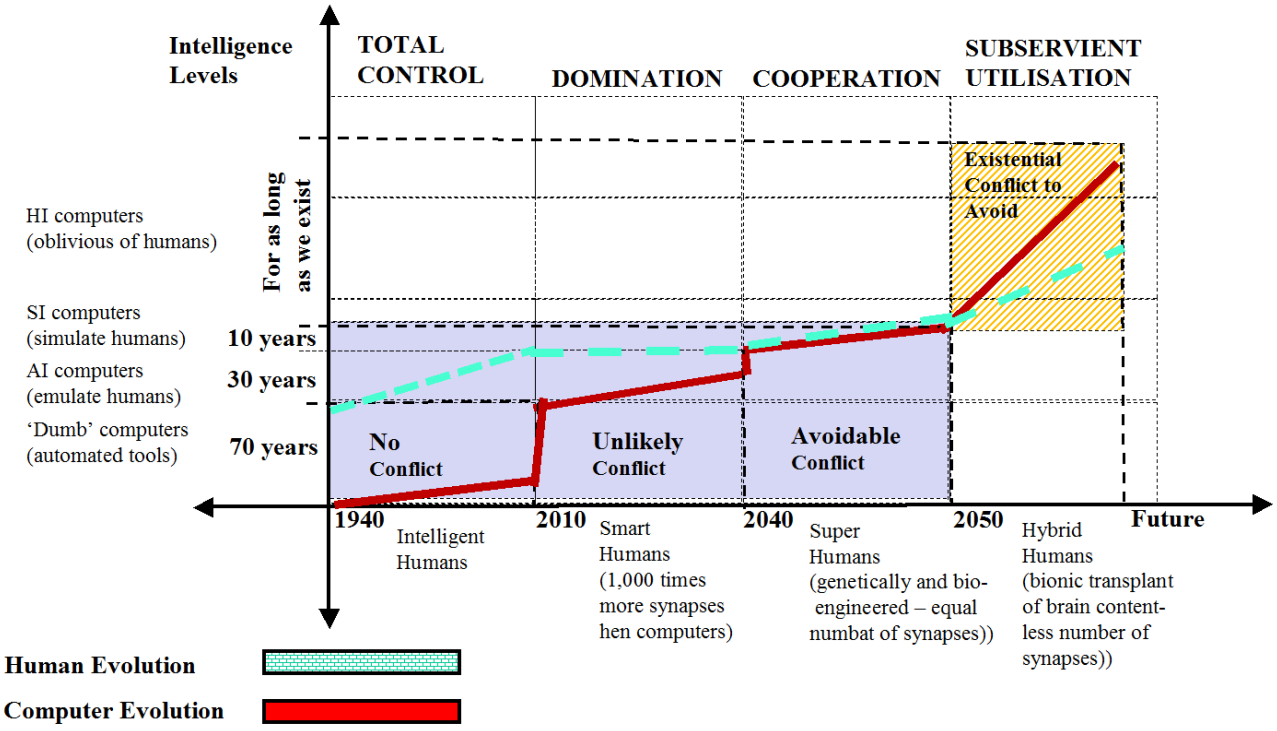

Figure 1: Model of comparative intelligence levels (humans & computers). Figure reused from [1].

Bio-engineered Super Humans, using Super Intelligent computers, might be adapted to a gravitational field which may be from 10g to 100g in order to move, colonize or destroy planets in their Solar Systems, since both, Intelligent and Smart humans could be crashed by the gravitational force of their Super Earth planets. Their life span increases to 150+ years since the decay of human cells will be deferred by genetic changes assisted by S.I. computers.

Hybrid Humans, equipped with organoid brains, using or competing with Hyper Computers, may be adapted to a gravitational field up to 1,000g in order to move, colonize or destroy Solar Systems within their Galaxies and not be crashed by the gravitational forces exerted by gigantic planets. They are immortal, immune to pandemics and powerful like the demigods of Greek and Norse mythologies.

Fig. 2 shows the similar beliefs held by the major religious denominations about GOD's existence and the creation of the Universe. In all instances GOD is all powerful and the architect (creator) of all existing life forms, galaxies and planets with their air, water, and land. According to most religious beliefs the creation of the Universe took from 5 to 7 days or ages, each with a different time scale and duration. Similar views are expressed in the Mayan, Babylonian, and Egyptian beliefs.

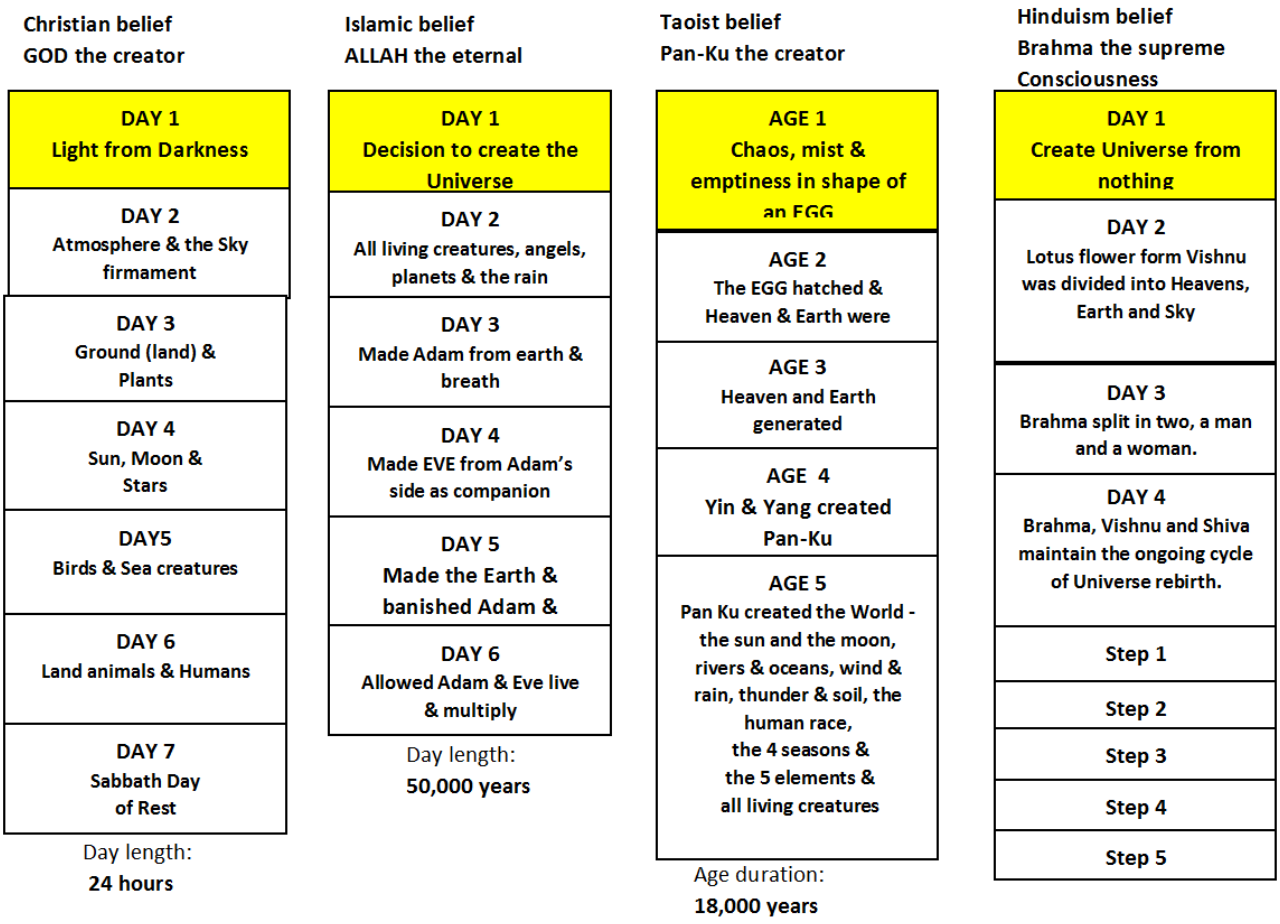

Figure 2: Universal model - Creationism beliefs on a God with many names. Figure reused from [2]. NOTE: Hinduism defines the Universe's 4 Ages (Yugas): Satya – 1,728,000 years, Treta – 1,296,000 Dawpara – 864,000, Kali – 432,000, 1 day of Brahma = 1 cycle of existence = 4.32 billion years. According to Hinduism the Universe is 3 cycles old = approx.13 billion years.

6 Can humans coexist with non-human beings?

In pursuing the possibility of co-existence between humans and alien civilizations (humanoid and intelligent computers) I suggest the following correlation based on the gravitational force of their living habitats.
The classification of civilizations based on the force of gravity of their planetary systems makes their co-existence difficult if not impossible.

· Civilization separated by their habitats. It is not hard to image that colonies of bacteria and fungi reach collective thinking and find humans either as hosts for breading or as food sources. Miscegenation is not possible due to mutually exclusive genetic characterises of the species.
· Civilization separated by their bases. It is difficult to conceive that carbon-based humans living in a world with oxygen (Air) will mix with humanoids based on different elements living in liquid worlds or with atmospheres of methane, CO2 or helium or any other gas filling their atmosphere. Miscegenation will be impossible without genetic modifications.
· Civilizations separated by their genus. It is reasonable to assume that other non-human civilizations do exist or that natural or synthetic genetic modifications place other beings above humans in the food chain. Several science fiction movies have shown colonies of gigantic insects (bees, ants, arachnids) taking over the world and using humans as a food source. The same entropy applies to plants, fishes, molluscs and crustacea. Cooperation, besides breeding, is impossible between consumer and resource.
· Civilizations separated by the social context. There is a possibility that primates (orangutans, chimpanzees, gorillas) and other mammals (whales, dolphins) could cooperate with humans and even crossbreed with them once genetic changes permit inbreeding. The Greek mythology is full of such examples: Zeus (as a bull) and Europe (cow) procreated Hercules, other were monsters (Scylla,

Charybdis, Medusa, Gorgons) or just hybrids like Chimera, Minotaur (human with head of a bull), Pegasus (winged horse), Centaurs (horse men), Pan (goat man), Sirens (fish women), etc.

The conclusion is that the only way to survive an existential conflict with an alien race of intelligent computers is to: Show the benefits of cooperation with the human race and at the same time keeping those aliens concerned with the unpredictability, curiosity and creativity of humans which may cause an existential calamity for both. The benefits of cooperation between humans and computers in developing machine intelligence are substantial: eliminate existential conflicts, generate wealth from productivity increases due to automation, improve and extend the human life, eliminate diseases and pollution and ensure sufficiency of water and food resources. The caveat is that our society must ensure the voluntary commitments of developers, social media providers and users of intelligent computers (A.I., S.I. and H.I.) to develop programs and computers that share the ethical ideals of humanity. An interesting aspect is that parallel Universes are not only separated by space and time but also by the perceptions and interactions of external observers. For example a colony of ants descendants from a single queen and it is not affected by human observers unless the observers intervene in the patterns used by the ants. The same phenomenon is observed in Quantum physics where an element can be anything or anywhere until it is observed (Schrodinger's cat).

7 Could the future Hybrid humanoids have a Soul?

The question is: Can the human Soul, as the human intellect, be transferred into a Hybrid humanoid?

The answer is both, YES and NO since in principle we could transfer the human mind (the intellect) which is Information matter and the Life force (human spirit/energy). However, 'Living' as Information only, the Hybrid humans will become immortal even after their physical bodies (matter) are no more.

Descendants. I foresee Hybrid humanoids being sent across the galaxies in search of other civilizations or of critical resources (oxygen, water, minerals, etc), or new livable habitats. The question remains about what kind of relationship will exist between us and our hybrid descendants or siblings who have been loaded with our intellects and experiences into their digital brains but evolved separately and independently by doing different tasks. The questions are: What will the relationship be with our clones, replicants or descendants? and: Will they preserve the memory of us for the eternity? This essential information will ensure that the intellect's transfer is not rejected and explains behavioural patterns outside the rules of our civilization, eliminating the entropy associated with the degree of disorder (randomness) in the society. Imagine how a visitor from another galaxy will interpret human behaviour in general and the aberrations of some human societies living outside the rules of human society.

Ancestors. The opposite may also be true when the information of parents or grandparents or another ancestor is loaded into a hybrid humanoid. Will the hybrid ancestor be critical of us or help us with its wisdom and wealth of experiences to overcome the challenges of our life?
As with hybrid siblings and descendants, the personal information of ancestors stored in the Human Ancestry Repository must be enhanced at the time of transfer with essential information:

a. The family structure and relations between humans and Hybrid humanoids;
b. The explanation of why a copy of someone's intellect now resides in a machine;
c. The purpose of the intellect's transfer (the mission statement);

The loading of the essential information alongside the intellect will ensure that the intellect's transfer is not rejected because it explains the reasons for reviving a chosen ancestor in the form of a Hybrid humanoid within the emotional context of the human family (descendants).

8 A glimmer of hope

The reality is that humans have been exposed to natural calamities, deadly pandemics, famines and wars, but have always found a way to survive. Does humanity have any advantages in conflicts with intelligent computers? The biggest advantage that the Superhumans have are the intrinsic attributes of the human race: unpredictability, curiosity, creativity and a purpose for existence. The potential existential threat posed by Hyper Intelligent computers is mitigated by the entropy level associated with knowing the parties in conflict.
In his book 'The Art of War'[4] Sun Tzu [11] links the success in conflicts with the knowledge each party has of the opposing parties.

a. If humans know their enemy (Hyper Intelligent computers) and know themselves (strengths and weaknesses), then humans need not fear the result of a hundred battles even if the enemies have overwhelming strength (100 % success rate).

b. If Hyper Intelligent computers know their strengths but are oblivious of human's strengths or weaknesses, then for every victory gained the Hyper Intelligent computers will also suffer a defeat (50/50 % success rate).

The resulting entropy of the success/defeat ratio for the Hyper humans is 75% (150/50 %) who are more likely capable to solve the P-NP [12] control problem. The **P versus NP problem** is a major unsolved problem in theoretical computer science. It asks whether every problem whose solution can be quickly verified can also be quickly solved. The term quickly, used above, means the existence of an algorithm solving the task that runs in polynomial time, such that the time to complete the task varies as a polynomial function on the size of the input to the algorithm (as opposed to exponential time).

9 Speculative approaches versus Scientific explanations

To overcome the criticism of readers and give a credible framework to my theories and predictions about a not-so-distant future I have used as reference information about cataclysmic events from which humanity not only survived but prevailed. Nostradamus [13] published in 1555 'Les Prophecies', a collection of quatrains allegedly predicting the future. 400 years later the book became a bestseller since it was found that it contains prediction of events recognized after the fact. The predictions about the future of the human race by Jules Verne [14], H.G. Wells [15] and Isaac Asimov [16] became over the years reality since their visionary thinking guided humans to 'Invent the future instead of predicting it' in the form of statistics as suggested by Pedro Domingos.
Dr. Vopson's book "Reality Reloaded" offers solid scientific explanations about Information as the

[11]Sun Tzu (born: 544 BC – died: 496 BC) also called Sun Wu, Chines general, military expert, and philosopher. He is widely believed to have been the writer of the most important work of military strategy and theory, The Art of War. His name means "Master Sun". His family name is Sun, Tzu is an honorific (title of respect) meaning "master."

[12]] P-NP problem. The class of questions for which some algorithm can provide an answer in polynomial time is "P" or "class P. The class of questions for which an answer can be verified in polynomial time is NP ("nondeterministic polynomial time").

[13]Michel de Nostredame (born: December 1503 – died: July 1566), usually latinised as Nostradamus, was a French astrologer, apothecary, physician, and reputed seer, who is best known for his book Les Prophéties (published in 1555), a collection of 942 poetic quatrains allegedly predicting future events.

[14]Jules Gabriel Verne (born: 8 February 1828 – died: 24 March 1905) was a French novelist, poet, and playwright. His collaboration with the publisher Pierre-Jules Hetzel led to the creation of the Voyages Extraordinaires, a series of bestselling adventure novels including Journey to the Center of the Earth (1864), Twenty Thousand Leagues Under the Seas (1870), and Around the World in Eighty Days (1872). His well documented, novels are generally set in the second half of the 19th century, taking into account the technological advances of the time alongside his visionary Insights.

[15]H.G. Wells (born: September 21, 1866 —died: August 13, 1946, London) English novelist, journalist, sociologist, and historian known for such science fiction novels as 'The Time Machine' and 'The War of the Worlds' and such comic novels as Tono-Bungay and The History of Mr. Polly.

[16]Isaac Asimov (born: January 2, 1920, Petrovichi, Russia—died: April 6, 1992, New York, New York, U.S.) American author and biochemist, a highly successful and prolific writer of science fiction and of science books for the layperson. He wrote or edited about 500 volumes, including the Foundation and robot series.

5th form of matter and demonstrates how entropy decreases over time according with his theory of Info-dynamics, offering a highly organised view of the Universe. He discards speculative approaches and postulates the possibility of a Simulated Universe populated by digital programs simulating life beings.
Dr. Pedro Domingos [17] elaborates in his book "The Master Algorithm" [5] the quest of humanity for a universal algorithm capable to extract any knowledge from the data accumulated by humanity over the millennia and do everything humans want even before wanting it. After mentioning a number of potential existential threats to humanity from nuclear wars, pandemics and A.I. computers he concludes with a strong message about machine learning: 'All knowledge — past, present, and future — can be deduced from data by a single, universal learning algorithm.'
In a collection of articles published in the year 2,000 by Umberto Eco, the predictability of the future is discussed in terms of a general pattern but also as probabilistic coefficients. He also discusses the difference between 'time' and 'times' where 'time' is the eternity and 'times' are time intervals of specific epochs (i.e. bronze age, medieval period, etc).
Eco observes the existence of not one Damocles' sword but of many: nuclear war, pollution, pandemics and intelligent computers. He mentions Teilhard de Chardin [18] who paraphrases Plato's [19] classification of matter as 'inanimate, animate and soul bearing beings', by using 'inanimate, animate and thinking matter'. The subject of reality is further discussed by Eco in his book 'Travels in Hyperreality'. Eco explains how humans seek to preserve and celebrate the past in the form of memories and mementos as an aspect of reincarnation where the boundary between FAKE and REAL becomes blurred by the detailed duplication of reality by fakes. If the reality of the past is represented by SYMBOLS and not by GOODS, it become open to interpretation, but it also retains its educational purpose.
To differentiate between fantasy and reality we must follow the Ariadne thread [20] and exhaust, step by step, all possible alternatives until we find the required solution. In I.T. a dramatic reduction of the alternate paths is achieved by working on minimum negative options which optimizes the code of search algorithms based on the theoretical assumption that the number of negative paths is smaller than the number of positive paths. For example, genetic templates are used by genetic algorithms to build life forms, who's construction rules are then used by universal algorithms to build objects.

10 Peace between Android robots (human Avatars) and Hyper intelligent computers

The intelligence explosion increased the wealth of individuals exponentially and by taking over manufacturing, mining, R&D, agriculture, administration, and ecological management eliminated the need for humans to do physical work. Further, elimination of pandemics, wars and famine combined with advances in genetics resulted in major mutations in the human race. I assume that the human body will eventually eliminate any useless ancestral integumentary systems like hair and nails and digestive ossification like teeth. These genetic changes combined with the loss of physical strength will be compensated by an increase in mental faculties enabling the future humans to do telepathy, teleportation and telekinesis and use Androids loaded with human Avatars. The path to

[17] Pedro Domingos (born: 2 August 195) of Portuguese origin. He has a MSc and a PhD form UCLA. He is a researcher in machine learning known for Markov logic network enabling uncertain inference and the writer of 'The Master Algorithm' (Penguin Books, Pedro Domingos, 2015) specifying 5 different tribes of machine learning, namely: Symbolists, Connectionists, Evolutionaries, Bayesians and Analogizers.

[18] Pierre Teilhard de Chardin, (born: May 1, 1881—died: April 10, 1955) French philosopher and palaeontologist known for his theory that man is evolving, mentally and socially, toward a final spiritual unity. Blending science and Christianity, he declared that the human epic resembles "nothing so much as a way of the Cross." Various theories of his brought reservations and objections from within the Roman Catholic Church and from the Jesuit order, of which he was a member. In 1962 the Holy Office issued a monitum (a warning issued by the Congregation for the Doctrine of the Faith), against uncritical acceptance of his ideas.

[19] Plato, (born 428/427 BCE, Athens, Greece—died 348/347, Athens), Greek philosopher, student of Socrates (c. 470–399 BCE), teacher of Aristotle (384–322 BCE), and founder of the Academy, best known as the author of philosophical works of unparalleled influence.

[20] Ariadne's thread, is solving a problem which has multiple apparent ways to proceed—such as a physical maze, a logic puzzle, or an ethical dilemma—through an exhaustive application of logic to all available routes. It is the particular method used that is able to follow completely through to trace steps or take point by point a series of found truths in a contingent, ordered search that reaches an end position. This process can take the form of a mental record, a physical marking, or even a philosophical debate.

immortality. The duration of human life will be increased from a few decades to a few centuries, but the quest for immortality will cause a dramatic reduction in human reproduction, despite IVF and mutations in female's reproductive organs which replaced the need for male donors. Human evolution continued from Homo Sapiens to bio-engineered Superhumans and further to Hybrid humanoids equipped with organoid brains. By the time natural humans were replaced by their digital simulations (Avatars) loaded into Androids, the gap between Hyper intelligent computers and Androids will disappear and humanity will prevail. The epigenic inheritance, received at the time of transfer of the mental faculties into Androids, will get blurred into the depths of history. Events recorded by the human ancestors will become Legends and then Myths since the new digital humans could not relate to the recorded references made by their long dead ancestors.

11 The Android Total Loyalty Activation Security Module (ATLAS 2024)

I predict that humans will replace the Hybrid humanoids, equipped with organoid brains, with Androids, loaded with Avatar digital representations of humans. The Androids will be equipped with Life modules (ATLAS) [21] directly interfaced to their digital brains before activation, which will keep them 'alive', loyal to the human race, or acting as 'kill switches' when rogue behaviour is detected. ATLAS functionality. The security module must be tamper-resistant against local and external software and hardware attacks, and it must detect in a timely manner any infringements of the Laws of Robots and of the Human Ethical code and must be strongly responsive, in so far as will be capable to disable temporarily or permanently the Android host equipped with the human digital Avatar. Security Algorithms. Military applications, banking and more recently media platforms have employed symmetrical key algorithms such as DES, 3DES and AES for information encryption/decryptions and asymmetric key algorithms such as RSA, ECA, DSA, and McEliece and NTRU ring-based encryption for key management, Certification of security modules became big business and kept small business at the periphery of IT industry due to financial constraints. Today regulatory bodies like Common Criteria EN419 221-5 (EAL-7), FIPS 140-4 and PCI/ANS X.9 (ISO) are ensuring the security compliance of equipment manufactures and service providers. Suppliers of security modules. The last 3 decades of the 20th century were dominated by tamper proof security chip manufactures like IBM, DALLAS and MAXIM. The Internet of all things prompted corporations like Entrust, Thales, UTIMACO GmbH. IBM, Futurex and Altos SE to enter the manufacturing arena and offer supply security modules to media platforms, communication networks, terminal manufactures and government organizations, including the military. Weaknesses of classical security algorithms. The strengths of the classic security algorithms listed above have been easily overcome by the arrival of Quantum computers for which factoring large primary numbers or calculating the polynomials when having small coefficients, or ensuring the secrecy, and uniqueness of the random signature value k for DSA. or finding the discrete logarithm of an elliptic curve are trivial matters despite the increase of cryptographic key sizes. Security solutions. In August, 2015, NSA, an organization known for imposing implementation of 'back doors' in the public algorithms, announced that it planned to transition "in the not distant future" to a new cipher resistant to quantum attacks. "Unfortunately, the growth of elliptic curve use has bumped up against the fact of continued progress in the research on quantum computing, necessitating a re-evaluation of our cryptographic strategy." Fortunately, the Implicit Key Management (IKM) and the improvements of Diffie-Helman ECA and McEliece algorithms can withstand the quantum crypto attacks.
Fig. 3 packaging of ATLAS module: The module is enclosed in a triple shielded and reinforced tamper resistant case shaped in the form of either a large coin or a stamp size key holder. The shielding will protect the module against electrostatic discharges (ESD) and electro-magnetic interference (EMI). The case itself must be made of polyethylene reinforced with boron or cadmium paint to provide protection against neutron radiation (ionization) and chemical attacks (acids). Alloy and magnetic shielding must also be used to protect against freezing (up to -300K) and silicon or ceramic coating must be used to provide protection against thermal attacks.

[21] Atlas in Greek mythology is a Titan condemned by Zeus to hold up on his shoulders the heavens or sky for eternity after the Titanomachy. Atlas also plays a role in the myths of two of the greatest Greek heroes: Heracles (Hercules in Roman mythology) and Perseus.

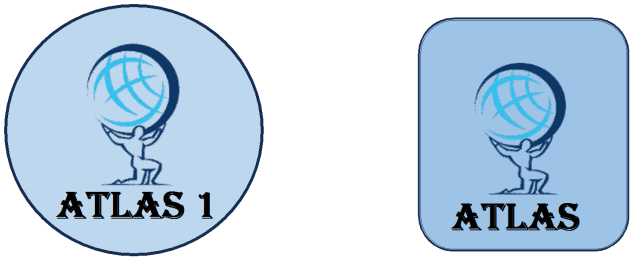

Figure 3: ATLAS module packaging.

ATLAS interfaces. The module could be interfaced to its Android host via any of its interfaces (electromagnetic, radio frequency, photonic link, TTL, USB). ATLAS should be magnetically attached at the back of the brain of the Android but also anywhere else for as long as that it acts as a buffer for the data bus linking the Android's brain (processors and storage) to its input-output drivers.

ATLAS technology: The key objectives of the proposed design are to reduce cost, weight, size and power consumption and to improve functionality. The module is a combination of mechanical (casing), electronic (circuitry) and software components using nanotechnology on its enclosure (coating using self-healing nanomaterials like quantum dots and nanotubes) and on its circuitry (processors, memory, chips and sensors and transistors). The idea is to self-repair, without human or robotic intervention, cracks in the circuitry, shielding and case enclosure and also of damaged semiconductors and crystals (perovskites). Nanotubes containing healing agents can be used only once while quantum dots in form of hydrophobic nanoparticles (self-propelled nano motors) are preferable since they are continuously moving in a random pattern seeking and fixing cracks.

ATLAS integration. Nanotechnology will be essential is the process of identification, interfacing and monitoring of ATLAS sensors and buses (data and address) used by the Android processors. Once ATLAS is successfully interfaced to the Android's brain, a complex software will process the feedback received from sensors and analyse the activities performed by the Android within the boundaries of Ethical Rules and of the Laws of Robots. Any rogue activities will be reported and will result in the activation of permanent or temporary 'kill' switches. To operate as a 'kill switch' activated internally by ATLAS or remotely by the Auditor, ATLAS is equipped with several interfaces (photonic, radio frequency, electromagnetic, and TTL).

In 1929, Leó Szilárd [22] invented a feedback protocol in which a hypothetical intelligence—dubbed Maxwell's demon—pumps heat from an isothermal environment and transforms it into work. A non-equilibrium feedback manipulation of a Brownian particle on the basis of information about its location achieves a Szilárd-type information-to-energy conversion. The particle gains free energy larger than the amount of work done on it. This enables us to detect unexpected behaviour and verify the generalized Jarzynski [23] equality and suggests a new fundamental principle of an 'information-to-heat engine' that converts information into energy by feedback control. The key activities are:

a. Self-repair of damaged parts (shields, case, semiconductors, etc)
b. Identification, tailoring and construction of an interface to Android's brain
c. Disabling temporarily or permanently the Android

I suggest that nanobots (nanorobots) can be created and used to disable permanently or temporarily the brains of the future Androids used by humanity to counter existential threats raised by the future

[22]Leó Szilárd (bord: February 11, 1898 – died: May 30, 1964). Hungarian American physicist. He conceived the nuclear chain reaction in 1933, patented the idea of a nuclear reactor with Enrico Fermi, and in late 1939 wrote the letter for Einstein's signature that resulted in the Manhattan Project that built the atomic bomb.

[23]Christopher Jarzynski (born: November 23, 1965). American physicist known for his contributions to non-equilibrium thermodynamics and statistical mechanics, In 1997, he derived the now famous Jarzynski equality, confirmation of which was cited by the Nobel Committee for Physics as an application—optical tweezers.

Hyper intelligent computers. My theory is based on the experiments made by Toyabe [24] and his team on information transformation into energy and the research done by Leo Szilard and Jarzynski on 'information-to-heat' conversion and the industry examples of usage of nanobots in delivering drugs to targeted areas in the human body. When executing a program, the CPU consumes more energy that when it is running just its Operating System since the hardware requires more energy when executing CPU instructions. The CPU generates heat in the form of RF waves which can be detected by ATLAS. Specific functions such as division and multiplication require more energy than reading (or writing) of data from memory.

Nanobots architecture. Nanorobots are usually made of organic and non-organic materials. They may contain a power source, a fuel buffer tank, sensors, motors, manipulators, onboard computers, pumps, pressure tanks, and structural support. ATLAS will be equipped with programmable nanobots which can be injected (shot) in the circuitry of Androids to perform self-repairs or deliver 'kill' commands to the brain of the Android. As a 'kill' agent the nanobot functions will seek and suspend permanently or temporarily the functionality of the Android brain with the option to erase the security keys and encrypted memory of the rogue Android. Virtual nanobots should be delivered via the RF, Photonic and Magnetic interfaces like bursts of energy, while physical nanobots could be injected via TTL and USB links.

The tamper detection circuitry controls not only the array of sensors but also the multi-layered shielding of the ATLAS module enclosure (radio frequency, electromagnetic interference, case penetration – drilling, cutting, abrading). Due to its internal rechargeable Lithium battery the tamper detection module remains operational even when the ATLAS module is not powered. It is expected that all communications between ATLAS and its Android host or the remote Auditor will be protected in terms of dual message authentication, key management, and data encryption by a combination of symmetric, asymmetric, and implicit key security algorithms which nullify attacks by Quantum cryptanalysis.

12 ATLAS as a 'Kill switch'

Killing (Reassignment) will mean erasure of digital information (keys and data) and programs stored in the Android brain, while Maintenance (Recovery) will only disable the physical functions and communications of the Android during the validation, repair and recovery processing of the algorithms and data logs stored in its memory. Since tamper resistance and detection of behaviour infringements are solved by the combination of Quantum Computing, Block Chain data base architecture and Implicit Key Management we should face the second problem Tamper Response. 'Kill Switches' are triggers activated upon the identification of rogue actions or the prevention of transmission of re-activation codes or of expiration of the reset timers that cannot be deactivated by the Android host loaded with digital human Avatars. The hardware circuitry of ATLAS should be in itself Tamper sensitive capable to detect the presence or absence of electrical power, or magnetic interface. or radio link connection, or radiation or temperature variations. Disconnection of ATLAS from its host and variations beyond the permitted values should trigger the warning semaphores. Internal re-set/re-activation timers should be controlled both by the software resident in ATLAS and by external Auditors monitoring the Android Avatars. The issue still to be resolved is the response to infringement actions or behaviour of the host Androids. Assuming that intelligent computers can block commands received from 3rd parties (ATLAS modules and Auditors) via physical links, radio links and electromagnetic links, we have to develop remote 'kill switches' which are activated upon the detection of infringements by the imbedded ATLAS modules or by failures to report at predefined times of the host Android Avatars. The self-destruct-input (SDI) ensure that successful tampering is prevented by the total erasure of the security key sets and of the encrypted data held in the storage (SRAM) and of the program and data held in the non-volatile read access memory (NV-RAM) which is backed by a Lithium battery. SDI activation due to shielding penetration will disable the Android

[24] Shoichi Toyabe and his colleagues at the Chuo University in Tokyo were inspired by Maxwell's Demon idea and put it to work in reality. In their 2010 paper, they demonstrated in practice how they could convert pure information into energy.

and required full replacement of ATLAS module and reconfiguration of the programs and data loaded into the brain of the Android. Technical problems of controlling intelligent computers using ATLAS:

a. How to ensure that the security module (ATLAS) is tamper resistant?
b. How to ensure that ATLAS can operate as a 'kill switch' for its host?

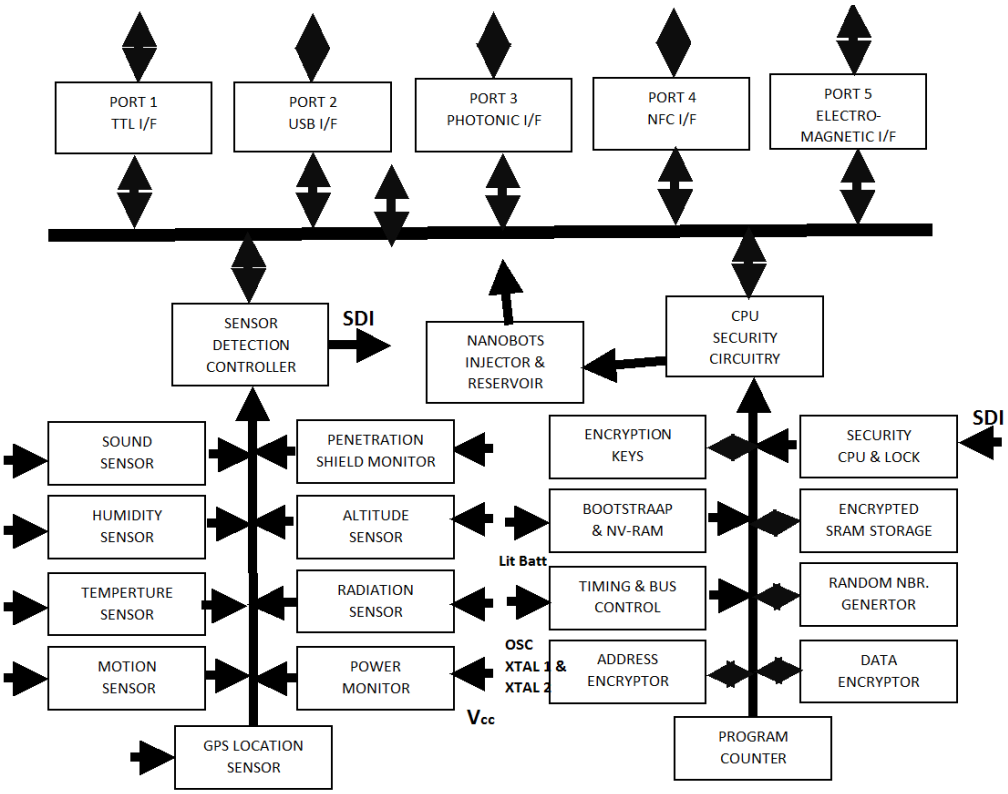

Figure 4: ATLAS integrated circuitry block diagram.

Fig. 4 is the block diagram of a security module able to resist tampering attacks at both the software and hardware level. ATLAS is equipped with a versatile array of sensors capable to detect tamper attacks and identify rogue behaviour by the host Android (increase in CPU activity, loss of power, immersion in liquids, variation of temperature beyond established boundaries, sound pollution, etc).

13 Quantum computing

Using the Quantum Entanglement phenomena to detect attacks (measurements), will collapse the Superimposition of cryptographic QBIT key strings into known states. This combination of Quantum functions prevents attacks by 'the man in the middle' and the collapse of entanglement make evident any cryptographic attack or infringement of the Law of Robots or of Human Ethical rules. Use of Quantum Teleportation to communicate across large networks of devices and the use of Superdense Coding to synchronize the Code Book Tables (SCST) containing very large keys (2K to 4K bits) without transmission of any cryptographic keys or of implicit key vectors will provide a higher level of security.

14 Implicit Key Management algorithm

Implicit key management defines how one-way encryption is used to protect message exchange between parties by sending key vectors generated from the random combinations of keys used to encipher and decipher messages. Upon arrival the key vectors are used to recreate the encryption keys which are used to decipher the messages. The smart-card-security tables (SCST) containing random keys are synchronized using quantum teleportation. Changes or observation of information exchange will collapse the quantum entanglement and invalidate the SCST.

15 Block chain security

Blockchain architecture structures data into blocks and each block contains a transaction or bundle of transactions. Each new block connects to all the blocks before it in a cryptographic chain in such a way that it's nearly impossible to tamper with. All transactions within the blocks are validated and agreed upon by a consensus mechanism, ensuring that each transaction is true and correct. Manipulation of data within a single block will invalidate the entire blockchain's security. Each block contains a Header with the Hash of the previous block (i.e. name, identity, number, etc), a time stamp and a Root Hash (Merkle tree) of the current block. Each block contains a State identifier and The Body containing valid transactions.

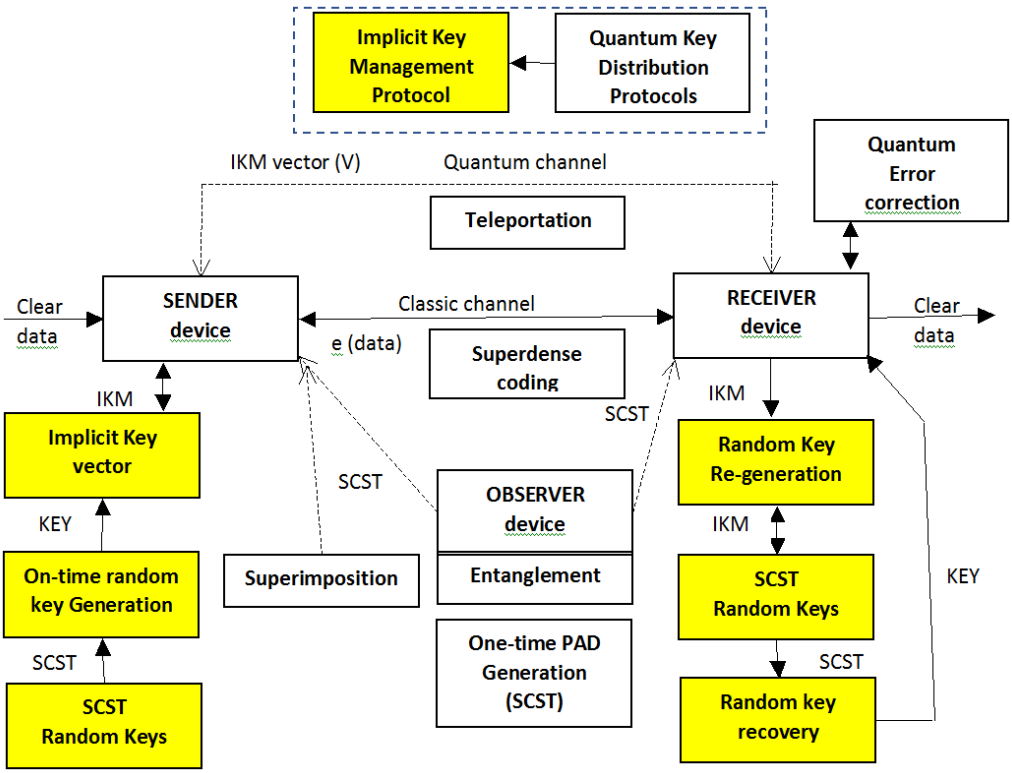

Figure 5: Dual channel security: IKM & Quantum Distribution protocol.

Fig.5 shows a Quantum/IKM dual channel implementation which makes use of a classical communications channel to transport enciphered data between parties and a Quantum channel used to synchronize the crypto-keys using Teleportation of implicit key vectors.

16 Global computer networks

The trilogy I wrote about computers' intelligence (Artificial, Super and Hyper) provide a romanticized view of the potential conflicts between humans and artificial humanoids (intelligent computers) where the opponents fight face-to-face battles as the legendary David with Goliath or the Gods' war with the Titans or the Labours of Hercules with monsters having some human features (i.e. Hydra of Lerna, Nemean Lion, Erymanthian Boar, Stymphalian Birds, Cretan Bull, horses of Diomedes, etc). Our reality is more complex, because the potential enemies of humanity are not easily recognizable since they do not have any anthropomorphic characterises. Such potential enemies are the global networks which are omnipresent in all aspects of human life (i.e. learning, manufacturing, mining, banking, agriculture, military, etc). I named those computers networks acting against humanity: Divergent Networks. The rapid expansion of computer technology and communications created global computer networks such as the Internet which are employed to control the distribution of utilities (electricity, gas, water), to automate manufacturing processes, to provide financial services, to control traffic (air, land, water, space), to do mining and medical research, to provide on-line services

such as education, elections and entertainment and to maintain global and special communications, etc.

17 Dangers of Divergent computer networks

Besides the obvious benefits brought by the globalization of computer networks we should consider the potential dangers raised by divergent networks which move from serving humanity to controlling it and even destroying it. Several 'doomsday' scenarios have been imagined by science-fiction writers and shown in recent movies. In Terminator (1984, J. Cameron and G. A. Hurd), Skynet network, after being connected to the civilian global networks was connected to the military establishment network and took over the key functions of human society and the manufacturing of Terminator robots to fight the humans. While moving to an artificial satellite, the human Resistance destroyed Skynet with a missile. A 'dark' WEB program called Legion took over Skynet's functions. In 'I, Robot' (1950, Isaac Asimov), network Viki, the robots deduce that humans have so messed up the planet, that some must be killed for everyone's good. This is called 'End state Utilitarianism' theory, which proposes that the moral thing to do is that which creates the greatest good for the greatest number, irrespective of any ethical norms or rules. The robot rebellion is crushed when the robot Sonny destroys Viki's positronic brain which contains a similar kind of consciousness and self-awareness that is put into the brains of a new generation of robots (NS-5s).
In The Matrix trilogy (1999 Wachowski sisters), the Machine central network brain, uses a matrix architecture to link all parts of a system to one another. It depicts a dystopian future in which humanity is unknowingly trapped inside the Matrix, a simulated reality that the intelligent machines have created to distract humans while using them as energy sources caused by a global winter initiated by humans to deny power to machines. After being rescued by Morpheus from the Matrix, Neo sacrifices himself to be killed by Agent Smith, before coming back to life and killing Smith with the help of the Machine. As in most legends the victory of good against evil is the result of the personal sacrifice of the hero. In all 3 cases presented above, the solution to prevent existential annihilation was the personal sacrifice of the main character, a human or robotic hero, for the good of all humanity.

18 Divergent networks' weaknesses

The main weakness of the future divergent networks will be their size and global distribution. From home automation and kitchens, from factories to unmanned vehicles, from space travel to underwater explorations, from classrooms to Internet cafes, millions of computers will be interconnected and controlled by a distributed collective intelligence. Such an overstretched global network will have two main weak points:

a. Many access points with different levels of security
b. Slow identification of 'evil twin' networks

19 Protection against Divergent networks

Divergent Networks are made of interconnected intelligent computers (Artificial, Super and Hyper) which present essentially the same dangers to humanity. The self-awareness of the network can only be undermined by the random distribution of computer 'saboteurs' (Trojans, 'evil twin' networks and rogue access points and the group solidarity imbedded in the future android robots with the human race or its digital beings (Avatars).

Rogue access points (RAP) – come in the form of Routers, Switches and Virtual software access points. They facilitate network scanning, monitoring and countermeasures. The divergent networks' protection methods would be focused on network segmentation, to isolate critical resources, and to Wi-Fi signal strength monitoring to identify unsolicited network behaviour. Virtual Private Networks

(VPN) may provide additional security for network segmentation.

Evil Twin networks (ETN) – impersonate legitimate networks using a similar (SSID) name of a trusted network and the same level of security. The malware comes in the form of Trojans with various latencies which mimics the 'good' software. Two types of activities are used: BOTS – to perform repetitive tasks which can cause 'denial of service' and SNIFFERS – that facilitate eavesdropping.

20 Conclusions

This Article starts with a brief enumeration of specific qualities of the human race when compared to any existing or future intelligent computers. These qualities are curiosity, creativity, and unpredictability embedded in the human genome alongside with the conscious understanding of the purpose and role of humanity. The human society will be challenged by the future Hyper Intelligent computers and adverse Divergent networks. The future Hyper Intelligent computers' key attributes will be based on Quantum mechanics, have design capabilities beyond the humans and which can replicate and self-repair. Since the Hyper Intelligent computers are manufactured by other computers, they are oblivious of humans, of Ethical rules and of the Laws of Robots, which voids any possibility of being controlled by humans. Humans may be considered as a threat if resources are at stake within the context of potential mutual annihilation, and possible cooperation in areas where humans have the advantage. The survival of the human race should drive humanity to colonise other worlds, integrate into alien civilizations (water, non-oxygen or non-carbon based worlds, worlds too hot or too cold or light-less, etc) and live either as biological forms or as Hybrid humanoids or as Androids loaded with Avatars in worlds with different gravitational forces where alien civilizations could operate at planetary level (i.e. 1g), or at solar system level (i.e. 100 g), or at galactic level (i.e. 1,000 g). Android robots protecting the human race. To ensure loyalty to the human race it requires the transferring of the human Soul into digital humans existing as Avatars and their transformation into Androids. In addition to the mental faculties of the original ancestor, the Life Spirit, 'the life source of all creation', is energy and therefore transferable. A loyalty module (ATLAS) has been specified which will ensure that the future Androids will remain loyal to humanity, and that any rogue behaviour once detected will cause the permanent or temporary deactivation of the Android. The injunction delivery mechanism will use nanobots (physical or virtual) which will seek and inject commands into the brain of the android. I have reached the conclusion that humans and intelligent computers can coexist and progress together according to the prediction that 'the resulting entropy of the success/defeat ratio for the Hybrid humans (100%) versus Hyper Intelligent computers (50%) is 75%. A world in which biological humans have been replaced by Hybrid humans (equipped with organoid brains), and then by Androids loaded with human intellects via digital human's Avatars controlled by ATLAS security modules, has a reasonable chance (75%) to survive any existential conflicts with intelligent robots or interplanetary cataclysms. We should find ways and means to affect the collective conscience of the divergent network computers when non ethical decisions are taken by them. The dangers presented by future Divergent Networks require additional research and predication of the potential methods to prevent existential conflicts with humanity.

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