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Cyberspace and Eschatological Expectations

On How Techno-Sciences Bolster the Belief in a Spiritually Connected Humanity

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Abstract

Following the studies analyzing the phenomena of religiosity that new technologies create (O. Krüger, D. Noble, H. Campbell), this paper questions the ways in which the Internet is understood as a salvation means. This media, closely linked to the idea of spiritual unity of humanity as a higher stage of evolution, inspired technological innovations underpinned by eschatological concerns. These expectations are related to the way the mind works and how increasing it through techno-sciences. The former are motivated by a quest for immortality by getting rid of the body, transferring the human spirit into the machine. Thus, predictive softwares, such as the Global Consciousness Project, the WebBot Project or Google Brain, have been designed mixing global consciousness, the anticipation of the future and apocalypse. What is the meaning of the phenomenon of spiritual reappropriation of the Internet? How do we move from a technological link to a spiritual connection that would supposedly transcend humanity? Most importantly, what links could be found between predictive softwares and the willingness to disembody man to make him immortal? Based on an analysis of the canonical sources of cyberculture and a study of communities following anticipations of predictive softwares, this paper analyzes the uses of belief in global consciousness when linked to Internet-assisted divination. First, it shows that the development of these softwares reveals a certain secularization of the discourses around global consciousness, while scientific positivism emerges from then. Then, it enlightens us about the role of techno-sciences in the building of lived utopias.

Keywords

1   Introduction

In December 2012, Google hired the Pope of transhumanism Ray Kurzweil in order to develop an artificial intelligence program called "Google Brain". This would usher the Internet Juggernaut into a world of permanent connection where users are to be provided information even before the said information is requested. Thus, thanks to algorithms burrowing into the Web's Big Data, some predictive software would extremely precisely anticipate the tastes of web-users. But the scope of this research program goes way beyond this. It is about finding the brain's functioning algorithm in order to devise a consciousness from an artificial being and to conceive machines of which the intelligence would be greater than that of humans. By June 2013, Google announced it had created an "artificial brain". More precisely, this is a self-learning, supervision-free software boosted by the power of some 16 000 processors. Some tests have revealed that this brain is able to learn alone how to recognize a cat, in other words to conceptualize, without the help of any referential, what would amount to, in the human realm, a child learning to read alone. The framework within which *Google Brain* evolves is that of a "technological singularity". This phrase is referring to the time, often depicted by transhumans, when humans will be overtaken by artificial forms of intelligence. What bolsters this project is a quest for immortality which, in time, aims to get rid of human flesh by transferring the human spirit onto a machine. Therefore, although one may construe this project as stemming from the willingness to do away with human being as we know him by connecting him to a machine, it remains that this trend in itself is nothing new; for that matter, nor is new the use of algorithms for software anticipating the future.

What links may be found between predictive softwares and the willingness to disembody man in order to bestow upon him a degree of immortality? Science historian David Noble has shown that enchantment about and fascination with science have often been tinged with religiosity. Since the Middle-Ages, technology has been identified by Christianism as the possibility to find perfection anew, not only as a sign of Grace but also as a way to get ready for imminent salvation (Noble 1999, p1). Each technological breakthrough linked to communication -think for instance of printing or of the radio- has bred a range of religious and spiritual interpretations (Noble 1999). In this respect, the advent of computers and of the Internet in the second half of the 20th century was no exception. Now, in the era of IT, the old dreams of transcending the incarnated and spiritual nature of Man, along with the creation of artificial beings, have taken a peculiar turn. Indeed, it is within the North-American counterculture, ever hungry for esotericism and technology, that spiritual interpretations around the power of techno-sciences actually flourished. These have generated innovations influenced by eschatological concerns, linked to the working of the spirit and to the ways to augment its power *via* techno-sciences. Thus, Princeton devised its *Global Consciousness Project* as early as the 1990s. This is a research program at the very margins of science, whose aim

was to demonstrate the existence of what Jesuit Pierre Teilhard de Chardin called "Noosphere" (1956). With the help of quantum physics and of random numbers generators (RNGs) placed throughout the world, the project aimed at proving the existence of a space where human thoughts may be gathered together. More recently, the *WebBot Project*, itself a software anticipating the future and based on Internet algorithmics, has for instance predicted the end of the world. The difference with *Google Brain* is that what once belonged to the realm of cybernetics pioneers, to marginal sciences and even pseudo-sciences, has now passed on to a corporation listed on the stock exchange, which has invested several billion dollars in order to hire competent and renowned scientists as well as "Google evangelists" who are heirs to the counterculture. This, then, is not about soft (or not-so-soft) speculations upon the future of Man but, really, about research programs with actual applications in the middle run.

This somewhat lengthy description of recent research projects highlights a degree of cohesiveness between the history of computer culture and its attendant philosophical concerns, connected as these are with more or less secularized eschatological expectations. The way the Internet is being used today and the representations and aspirations thereof are, as we will see, rooted in the Californian counterculture. This would apprehend the development of computers as a form of technical and social connectedness apt to generate a spiritual connectedness then able to transcend humanity. This article analyses this interpretation, which confers upon the Internet the capability to transcend individual thoughts by creating a world community (Krueger 2007). Called 'global consciousness', this belief rests upon in the notion that this medium would link individuals technically but also spiritually. Such interconnection would spawn a collective spirit, some superior entity which would signal the advent of the "Spirit Realm". On the one hand, global consciousness would become alive on the Internet and would be apprehended thanks to software analyzing the data therein circulating. On the other hand, these types of softwares would have the capacity to anticipate events, notably the end of the world.

In a globalised, uncertain world (Beck 2001) where technology is ubiquitous, what may be the meaning of such a spiritual re-appropriation of the socio-technical environment that the Internet ultimately is? How did the notion of a humanity in continuum actually emerge within cyberspace? How has it been possible to shift from a technological link to a spiritual link which might transcend humanity? I wish here to analyze the birth, spread, function and uses of the belief in global consciousness through the lens of the articulation and the complementary nature of sciences and techniques and beliefs and spiritual imageries around the Internet. In order to do that, we first need to refer back to the creative impulse at the origin of cybernetics and to the way this techno-science impacted upon the theoretical framework of global consciousness. Thereafter, we will understand the way the psychedelic and technophile fringe of the 1960-1970s North-American counterculture, by re-appropriating itself I.T and the Internet, kindled afresh the notion of interconnectedness

between beings in this highly technical context. Elaborated mostly from secondary sources, this historical digression is necessary for the reader to comprehend how the spread of the Internet in the 1980s-1990s spawned the belief in a spiritually-connected humanity as a step further in the evolution of Man. Lastly, the eschatological dimension of this belief, intrinsically linked to the evolutions of I.T., has been growing since 2000. We will analyze one of its most profound shifts, i.e. the use of global consciousness as a tool allowing to foresee future events, such as the end of the world. I wish here to expose the results of an ongoing research, based on a re-questioning of canonical sources of cyber-culture and on my fieldwork on North-American and French virtual communities who adhere to the statements made by predictive types of softwares.

2   On the conceptual origins of global consciousness : from cybernetics to the centrality of communication

Cybernetics is a techno-science born back in the 1940s. More broadly known for its impact upon the development of computing systems, the influence of cybernetics nevertheless reaches beyond the profusion of socio-technical environments that we are witnessing today. Ever since its creation, cybernetics has been harnessed by a normative and moral dimension around communicative virtues. It is this aspect, a central one as we will shortly see, that has profoundly influenced our time and which is at the core of this study.

The founding father in the field is the renowned Massachusetts Institute of Technology mathematician Norbert Wiener. After he refused to join the Manhattan Project and because he was traumatized by World War II atrocities, he developed a whole reflection upon the uses of scientific discoveries and technical inventions based upon the promotion of greater social responsibility. The very word "cybernetics", from Greek κῠβερνήτης (kubernêtês), refers to the art of piloting and, metaphorically, to that of governing. By introducing this terminology in 1948, Wiener laid stress upon the necessity to build a better world in which the intensive use of media and communication networks would make it possible to forestall the tragic consequences of totalitarian ideologies. Wiener saw in communication and its regulation among living beings, machines and social processes the capability to restructure society in such a way as to curtail its self-destructing effects. In order to make cybernetics a full-fledged discipline, he brought together, with the help of neurologist Warren McCulloch, hundreds of scientists during what have been known as *Macy conferences*. Every six months in New York from 1946 to 1953 were gathered mathematicians such as John Von Neumann, psychologists, logicians, practitioners, historians, philosophers, economists, sociologists as well as anthropologists, among whom Claude Lévi-Strauss, Gregory Bateson and

Margaret Mead. Lying behind such a motley gathering of scholars was the willingness to construct a general science addressing the working of the spirit. These scientists believed that cybernetics was this "New Science" able to encapsulate all forms of knowledge in order to promote a broad improvement of human conditions. As Louis Challier put it during the second international cybernetics conference:

> "All these men resolutely turned towards the future and who still believe in the human infinite through our search for scientific accuracy, who believe in the Man of Tomorrow, over-developed compared with that of yesterday and already foreshadowed in the Man of Today: it is to them that I extend moved signs of collaborating affection, as associates in a painstaking effort at giving birth to this new Science: CYBERNETICS."[1]

What such discourse illustrates is the strong willingness to be part of a scientific revolution, and also the way these scientists found a powerful incentive in their profound faith in science and in its capacity to change society.

Such momentum linked to the changes announced by cybernetics is not devoid of an actual form of religiosity. It is indeed "an unwavering mood and fundation of the soul" (Simmel 1998, p111) which that takes the outline of faith. It is characterized, we will see, by a combinaison of "unselfish surrender and fervent desire, [...] of humility and exaltation, of sensual concretness and spiritual abstraction" (Simmel 1998, pp112-113) lending to its object an autonomy "released into absolute" (Simmel 1998, p48). That is first of all noticeable in Wiener's primary intention to devise a discipline allowing to "purify science from the nuclear sin"[2]. According to him, the guilt that he associates with the scientific sphere may be absolved through a better use of science which must be combined with broader communication. What he sees in interconnections and unifications of all sorts is a way to foster a complementary state of things and therefore perfection. Communication is construed as a moral duty allowing society to ward off the threat of disorganization and chaos, which he calls "entropy". This notion borrowed from the laws of thermodynamics entails that "any isolated system tends towards a state of maximum disorder or to the greatest possible uniformity, by slowing and stopping the trade in it". Whilst drawing inspiration from physical reality, Wiener raises entropy to the level of metaphysical truth by integrating it into a re-theologisation of the world. He considers it as a non-human "evil enemy" which, when regarded in social terms, constitutes a threat to man as well as to social intercourse. For him, the very nature of that enemy is explicitly analogous to the "Augustinian demon" inasmuch as it "is not a power in itself, but the

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1   See Lafontaine, Céline (2004), 21. Quote from Association internationale de cybernétique, 1960, Actes du 2° congrès, 3-10 septembre 1958, Namur.

2   The Wiener's positioning refers to the Oppenheimer's quote about the H-bomb: "Physicists have known now sin" (Bulletin of the atomic scientic, 4, 1948).

measure of our own weakness" (1954, pp41-42). This is why he confers upon scientists the responsibility to do battle against that demon with the aid of communication:

> "Communication is the cement of society and those whose works it is to maintain open the lines of communication are the very people upon whom the perptuation or fall of our civilization chiesly depends" (1954, p183).

More crucially, Wiener gives cybernetics a cosmogonic dimension. He conceives the universe as closed and led by the informational paradigm. He therefore postulates that it is in communication that the source and key to all natural and artificial phenomena may be found. The primacy he grants to information exchange is evocative of an informational monism according to which the nature of the deliverer and the receiver is itself secondary, thereby nullifying the ontological distance between living and non-living, human and machine. For him "to be alive is to participate in a continuous stream of influences from the outer world and acts on the outer world, in which we are merely the transitional stage" (1954, p48). By emphasizing communicational control and by subordinating life to communication, Wiener challenges classical humanism and the principle of humanity. This epistemological revolution, akin to a "Second Renaissance" (Lafontaine 2004, p26), radically transforms the figure and place of the human subject : this subject is not at the centre any longer and has been supplanted by information exchange, which grants as much importance to the machine as it does to man[3].

     The oscillations between the techno-scientific and the metaphysical fields stem from the cosmogonic scope of cybernetics, and from the inclusive and very theoretical character of the working of the universe. As Nathalie Luca makes clear, the transfer of transcendence from religion to science has not worked fully and science's abusive claim to explain the universe and its workings has proved unable to overcome its own pitfalls (Luca 2008, pp24-25). Ethical thinking on the uses of science and the diverse theories around the working of the spirit have raised more issues than they have arrived at definitive answers. The very general nature of such questionings has therefore bred some explanations which are a blend of theory and speculation, ultimately giving way to metaphysical questionings. This is why upon its founder's death in 1964, enthusiasm for cybernetics faded away among scientists. Unable to answer all the questions it raised, the science left a void soon to be filled by spirituals and religious aspirations. Thus, whilst conditioned by the knowledge produced by sciences, the reflections bred around the working of the spirit have found some answers within the North-American counterculture as well as within the new religious movements which have been rethinking a world wherein science and spirituality may be reconciled.

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3   For further reading see Wiener 2000 [1964].

Global consciousness was to appear a few decades later and is part of sets of beliefs which are heirs to the representation of communication as moral duty and to a vision of the world in which each element is connected to all others. Inherently linked to the development of techno-sciences, the Internet has embodied *par excellence* the place of such reconciliation of science and spirituality. The very notion that the spiritual unity of humanity is not only possible through technique but that it also constitutes a shift towards a further step of human evolution is a techno-spiritual reinterpretation of social intercourse, of the centrality of communication and of how complementary man and machine can be. Thus, in order to understand how global consciousness has been thought out, let us study the way cybernetics nourished the imagination of those who invented micro-computing and who apprehended the Internet as a means to create a world community.

3 From cosmogony of the mind to global consciousness : the spiritualization of the Internet and techno-eschatology

The move from the scientific sphere to the counterculture movement would have been impossible without the contribution of social sciences, instrumental in fostering a communicational worldview (Breton & Proulx 2002). In this respect Gregory Bateson's contribution was paramount. Not only to understand how these reflections on the working of the mind have found a continuity, but also in order to grasp the way in which the counterculture has appropriated the ideas of cybernetics by devising a system of thought combining a scientific dimension and religiousity. It is impossible to come to terms with how central interrelation is in global consciousness without dealing primarily with the theoretical contributions of the person considered as "the Renaissance man" (Garcia & Wittezaele 1992, p29). Bateson indeed developed a holistic vision of the mind in which the latter is envisaged as an informational process inextricably bound up to its environment. The mind existing only by and through exchanges, is it not meant to have material bounds. Being open onto the outside, it is meant to become meaningful only through its interaction with other systems. As the anthropologist tells us:

> "The individual mind is immanent but not only in the body. It is immanent also in the pathways and messages outside the body; and there is a larger Mind of which the individual mind is only a sub-system. This larger Mind is comparable to God and is perhaps what some people mean by 'God', but it is still immanent in the total interconnected social system and planetary ecology" (1999, p467).

The mind is here apprehended as an information influx, it no longer is tied in to the unicity of thought but to exchange, interrelation, complementariness and totality. Germane here is Wiener's

influence, according to whom the notion of individuality is now irrelevant, having been ousted by the supremacy of exchanged information. That epistemological u-turn, informed by a profound faith in the virtues of communication, was to be instrumental in shaping the utopias of some world community, linked as these were with the spread of IT. It is in this way that the countercultural concepts of 'collective intelligence' and 'global consciousness' are heirs to this mode of thinking.

Concomitantly, computing and network technologies emancipated from the scientific and military fields. The late 1950s coincided with the beginnings of large-scale computer sales, and the next decade with the development of the Internet, with distinct computers being connected together for the first time in 1969[4]. It was then that California's intellectual and scientific elites, influenced by a libertarian ideal of knowledge sharing, appropriated themselves these new media. Made up of people bringing together the technophile youth of Berkeley and the psychedelic counterculture, these groups freed themselves from the technocratic yoke by mastering technological breakthroughs in order to think out a meeting space, a space of sharing and of collective invention. Among these would be found people such as Timothy Leary[5], Steward Brand[6] or Howard Rheingold[7]. The political element in their action was necessarily bound up with the spiritual ambition that served as an incentive for them. Moved by a veritable faith in techno-scientific progress, these were advocates of hippie culture and nourished a strong interest in oriental philosophies. They also shared a common willingness to explore the confines of the mind. Computing embodied for them the possibility to gain access to a transcendent universe of disincarnation, allowing a psychic union otherwise than using psychotropic drugs. At a time when the hippie movement was on the wane, leading to some political dead-ends, computers according to Stewart Brand opened onto "a free way leading to climes we wouldn't even dream of" (Dery 1997, p37). Such cyberspace pioneers were both advocates of social changes and influenced by a pro-technological spiritualism, and to them techno-sciences were a means to transcend humanity. Alongside members of new religious movements, such as the *New Age* one, they shared the notion that humanity is moving forward to a

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4   It connected four universities : the Stanford Institute, University of California at Los Angeles, University of California at Santa Barbara and University of Utah.

5   Timothy Leary (1920-1996) was an american writer and psychologist who has taught psychology at Berkeley and Harvard. Considered as one of the great figures of the counterculture, he considered new technology as a good way to explore the mind. He believed in "therapeutic and spiritual benefits" of LSD. He leaded research to explore the cultural and philosophical implications of hallucinogenic drugs and wanted to prove that LSD, properly dosed, could have beneficial effects on the mind by "opening consciousness".

6   Stewart Brand is an american writter. He is best known as editor of the *Whole Earth Catalog*, an encyclopedic collection of tools, texts and informations. He also creates the *WELL*, one of the oldest virtual communities. The importance of its role in the Internet's development is brilliantly explained by Turner, Fred (2006) *From counterculture to cyberculture, Steward Brand, the whole earth network and the rise of digital utopianism*, The University of Chicago Press.

7   Howard Reinhgold is a critique and an american teacher. He has contributed to the development of the *WELL*. His specialities are on NTIC's social, cultural and political implications. He is considered as a reference in virtual communities and online interactions.

"paradigm shift", some imminent new dawn, sometimes called "the age of Aquarius", where spirit would supplant matter.

The beginnings of Internet access for civil society in the late 1970s generated reactions which were analogous to those brought about by computing. Potential communication with somebody else at the other end of the planet and instantaneous access to many forms of knowledge, without having to deal with the traditional legitimating channels of knowledge, made cyberspace a whole new land to be conquered. The reception of this system allowing to interconnect individuals through a computing system must be considered through the lens of a new discourse on religion and media philosophy (Krueger 2007, p139). In the main, the Internet is thought to broaden intellectual horizons, enhanced intelligence and to have an impact on the spiritual evolution of humanity. Olivier Krueger has shown that some interpretations of the Internet are largely informed by a discourse on the evolution and the global history of humanity, or on the cosmological history of the universe. He thus explains that "ontological patterns of interpretation include to a greater or lesser extent metaphysical assumptions on the nature of the Internet and the common notion of virtual reality" (2007, p140). These interpretations, sometimes called "cybergnosis" or "techgnosis" (Davis 1998), illustrate the creative dimension of the Internet according to the post-modern media philosophy, and rest upon the promise of "the dawn of a new age with the prophecy that a religious interpretation of an actual transformation of humankind*"* (2007, p141). Therefore, Internet pioneers, by announcing the end of the material world and by construing the advent of cyberspace as a "New Eden", partake of the shaping of a millenarist representation of the Internet. From the outset, this dimension was a paramount aspect of discourses on this medium. Tom Furness, a researcher who created the *Human Interface Technology Laboratory* at the University of Washington, explains has it that when we log on the Internet:

> "we become creatures of colored light in motion, pulsing with golden particles... We will all becomes angels, and for eternity... Cyberspace will feel like Paradise... a space for collective restoration [of the] habit of perfection" (Stenger 1992, p52).

Theologian Jennifer Cobb sees the Internet as a boundless space for the development of intellectual, spiritual and emotional potentials of humanity. According to her, "Cyberspace can help guide us toward a reconciliation of the major schisms of our time, those between science and spirit, between the organic world and the world that we create" (1998, p43). Much in the same way, when Stewart Brand, Howard Rheingold and John Perry Barlow created the WELL in 1985, which was the ancestor of discussion forums, the aim was to make it an instrument of social and spiritual renewal. According to Antonio Casilli these people would see computer networks as "instruments for the rebirth of an authentic community spirit" (2010, p51), whilst convinced that "computers would contribute to the social integration and psychological development of tomorrow's citizens" (2010,

p50). Consequently, WELL's community experience -beyond initiating reflections on unprecedented communicational potentialities- is regarded as allowing a "New Renaissance" ushering in a new age for humanity. These interpretations of the nature of the Internet and its millenarist scope stem from what Heidi Campbell calls the "spiritualization of the media" (2005). In other words, this is a trend that mobilizes the Internet in order to apprehend it according to a religious interpretative model.

David Noble explains that the tendency to see new technologies as a means to build a new community and to elevate the soul is actually nothing new in a Judeo-Christian context (1999, P12). In the 1990s, which coincided with American massification of Internet use, some started to believe that this medium would allow the creation of a "conscious and collective organ" transcending individuals and their thoughts. Better known as "global consciousness", this belief is largely informed by the communicational imperative drawn from cybernetics. On the one hand, it rests on the theory according to which technique is able to transfigure humanity by unifying it spiritually ; on the other hand, such unification is seen as the sign of "the Mind Realm". It is within the counterculture, and more specifically within Cyberdelia, that this belief set in. The cyberdelic movement, which conflates "cybernetics" and "psychedelic", brings together hackers, ravers, techno-pagans and *New Age* technophiles. Members of these groups would seek "Nirvana" in computing and their specificity has been to reconcile "the 1960s counterculture with the 1990s computing mania and *New Age* millenarist mysticism" (Dery 1997, p32). These people apprehend the Internet as a space wherein individual consciences come to meet. Mobilizing the entirety of thoughts passing through cyberspace and creating a communicational continuity wherein a communion of spirits operates, what the Internet embodies is a world electronic Agora giving birth to a "humanity in continuum" (Casilli 2010). Therefore, for the members of cyber-culture, cyberspace as a space of exchange is the source of an intellectual and spiritual unification which allows for a "techno-transcendent" experiencing of community. Global consciousness, as stemming from the fusion of man and machine, is considered as the opening gate into an unprecedented communicational era, the first step towards the realization of a divine entity made up of the collective human spirit. It is therefore a religious interpretation of evolution, an evolutionist discourse promising the dawn of a new age and prophesying a wholesale transformation of mankind.

This interpretation owes a great deal to the works of Jesuit theologian Pierre Teilhard de Chardin. The 'noosphere' concept he developed, also known as "sphere of human thought", is a holistic and evolutionist theory reconciling religious aspiration and science. It rests upon the idea that humanity converges towards a step of evolution itself leading to a new stage which he calls "noogenesis". What would be remarkable about this phase is the harmonization and unification of consciousnesses. This is meant to occur in the "noosphere" which is, according to Teilhard de

Chardin an outer layer of thought around the earth, and made up of human communications. It is characterized by the convergence of all individual consciousnesses, thereby creating a "supra-personal consciousness" (1956, p331). At the dawn of Internet massification, the noosphere had a major appeal to cyberculture, whose members saw it as a prophecy of the Internet[8]. Teilhard de Chardin's ideas couldn't have enjoyed vast influence had it not been for the contribution of Marshall MacLuhan's thought[9]. What can be tracked down to MacLuhan is the religious undertone of the history of evolution *via* technology and the way he posits that the great stages in history are connected to the development of communication techniques. Such an interpretation has been possible by a lexical transfer away from religion and onto technical vocabulary. MacLuhan has contextualized noosphere as a media and technology word by making it 'the global village' and by reading "the outer layer of thought" around the earth as an "electronic brain". According to him, the global village:

> "could create the universality of consciousness foreseen by Dante when he predicted that men would continue as no more than broken fragments until they were unified into an inclusive consciousness."[10]

What this stand underlines is that MacLuhan has not entirely stripped Teilhard de Chardin's works of their spiritual dimension and hasn't transformed them into a technicizing discourse. If anything, MacLuhan's stand illustrates how the two dimensions are interwoven in his thought. This is an approach which was bound to be re-appropriated by cyberculture, whose members have interpreted the 'global village' as a metaphorical prophecy of cyberspace.

The potentialities offered by virtual worlds have made believable the dreams of transcending matter and spirit in a single place and in the present. Ultimately, this quest for spiritual uplifting mediated by technique illustrates a social wish for a rapprochement of science and religion (Champion 1993). The bringing together of these two routinely opposed domains looks, for the members of the counterculture, like an opening door into a new era. This belief at least partly stems from the fact that it serves to complement instrumental reasoning, inasmuch as it entails a spiritual support normally neglected by technology. Technique itself then helps to bolster beliefs by catering to the need of community renewal and of a redefinition of the self which is sought for by the counterculture. Some cyber-philosophers thus construe the Internet's emergence and the advent of computers as a sign of a new level of consciousness in the history of evolution : the level that

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8   This is Mark Pesce, in 1990's, who has presented Teilhard de Chardin as the prophet of the Internet. See also: Pesce, Mark (2000), *The Playful World: How Technology is Transforming our Imagination*, NY: Ballantine Books, Primavesi, New York.
9   About links between entre Marshall McLuhan & Pierre Teilhard de Chardin, see Krueger, 2007.
10 "The Playboy interview : Marshall McLuhan", march 1969, PlayBoy, p. 72.

unifies humanity. Pierre Levy, for instance, takes a secular interpretation of the religious reception of the Internet by positing that cyberspace is a metaphor of a free and equal humanity which realizes the illumination of global intelligence (1994, p100). In this way the Internet seems to partake of the production of some collective identity that claims itself as a world identity. To this respect, Manuel Castells writes that "In a world of global flows of wealth, power, and images, the search for identity, collective or individual, ascribed or constructed, becomes the fundamental source of social meaning" (2010, p3). Armand Mattelart states that post-modern utopias dealing with some equalitarian global village are crucial in order to construct meaning in societies which are submerged in a flow of information (2000). Oliver Krueger goes further by explaining that the Internet appeared at a time which was remarkably devoid of any common myth, thereby making the medium itself the narrator of a media-based society (2007, p131). Consequently, global consciousness embodies certain aspects of the communitarian ideal and of the religious utopia of universal community (2007, p166). By celebrating unity, global consciousness may be interpreted as an allegory of globalization. Be they secular or spiritual, the interpretations of global consciousness and of collective intelligence hark back in both cases to some utopia of universal community. The ambivalence of interpretations is edifying in order to make sense of the shifts at the heart of the beliefs around global consciousness emerging at the dawn of the new millennium. The most important of these, and the most astonishing, is that hybridizing capitalism and millenarianism which utilizes global consciousness as a tool in order to anticipate the future, the way the stock exchange evolves and indeed the end of the world itself.

4   Uses of global consciousness : on anticipating the future

By the second half of the 1990s belief in global consciousness was on the wane. This put paid to the concept of a fusion with cyberspace, a belief by now substituted by a more consumerist and individualistic ideology geared on the "here and now". But the notion of a unification of spirits and minds reappeared at the dawn of the 2000s in order to fulfill a specific goal for global consciousness, i.e. a computer-aided anticipation of the future.

This practice was initiated by Terrence McKenna back in the 1970s. A high-profile member of the counterculture as well as disciple of Timothy Leary, McKenna devised a software, *Timewave Zero*, whose aim was to make sense of the course of events and to anticipate the future. By basing himself on a numerological formula drawn from *Yi King*[11], McKenna strives to demonstrate the

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11 The *Yi king i*s a chinese divination book also known as the *Book of Changes*. Based on a set of oracular statements represented by hexagrams and trigrams, its purpose is to describe the states of the world and their trends.

numerical regularities among the great events of human History. He is reported to have found out a convergence between the long Mayan calendar and 2012, a year which according to him would coincide with the end of a whole cycle (McKenna & McKenna 1975). Such a link between techno-sciences, divination and end of the world would find a specific continuity in cyber-culture and among other developments in techno-paganism. Founded in the late 1980s, this trend is the offspring of Californian counterculture, of the *New Age* wave and of digital technologies. It regards the alliance of science and religion as a means to transcend man. Computers, and above all the Internet, are for techno-pagans a very effective way to reach this by trust in "the hidden powers of the human brain". Adi Newton, the singer of the Clock DVA band, explains in an interview that:

> "[O]ccult technology is already with us. The computer is really a 20th century oracle we employ to forecast the future... Science... has always [sought] to simulate the occult, gain control over nature... [S]cience is now discovering what the mystics already knew."[12]

This is an apt illustration of the type of mindset at the root of predictive software, whilst also foreshadowing how these would be received among the cyber-culture.

5   The Global Consciousness Project

The Global Consciousness Project (GCP) appeared in the 1990s at the well-known and New Age *Esalen Institute.* Is as such the oldest software mobilizing the notion of global consciousness. This research program at the margins of science was developed by Princeton and the Institute of Noetic Sciences[13]. At the crossroads between psychology and physics, this experimental project rests on an international collaboration of researchers taking an interest in all the potentialities of consciousness. The project's goal was to demonstrate scientifically, but by starting from esoteric postulates, the noosphere's existence and to seek to gauge its manifestations in the physical world in an attempt to prove that mind does exert an influence on matter.

The technical scheme used for this is called "electrogaiagram". This measures, second by second, "the earth's state of mind". In order to do so, a range of random number generators (RNGs) have been spread throughout the world. For each of them, the tests of random numbers have been recorded continuingly, with a test each second since 1992. The results are connected back to social,

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12 Quoted in Riley, Matthew F. "Clock DVA: Energy Tending to Change" in *Technology Works*, unnumbered, unpaginated issue.
13 Founded in 1973 by the astronaut Edgar Mitchell, the institute focuses its research on the potentials and powers of consciousness.

economic and environmental events taking place at the same time. According to Roger Nelson, director of the GCP, these events have a significant influence on evaluating instruments. For instance, the tests reveal a repetition of the same numbers just before New Year's Eve, 9/11, or Lady Diana's death. This phenomenon is very likely to prove that there is a correlation between the results of the generator and "human consciousness interconnected at global level". How do GCP researchers account for this correlation?

According to them, certain events lead individuals to think about the same things and therefore to share similar emotions. This presumably accounts for the similarity in data gathered at events which emotionally engage individuals (such as concerts, rituals, etc.). The correlation is reported to be all the stronger at events generating emotions based on "interpersonal connection" such as compassion and at events which are lasting ones. This is construed as evidence of the interconnection of consciousnesses. It is alleged to prove the existence of a synchrony of thoughts and of their influence at the "quantum level". In other words, according to GCP's researchers when individuals think about the same thing, some effects on the physical world are actually perceptible, here on the series of numbers in the RNGs.

The GCP is not merely content with registering the "the subtle first sparks of consciousness in a global mind" (Nelson 2002). By detecting the "signs of a world awareness" (Nelson n.d), it seeks to influence the course of events. Following in the footsteps of Teilhard de Chardin, Roger Nelson considers the planet as a living, potentially conscious organ which is bound to awake with the union of human thoughts. In that respect, his appreciation of the Internet is interesting since he labels this medium as "a lively, growing, practically organic entity in itself -- with considerable similarity in many respects to Teilhard's noosphere" (2002). This project, by proving the existence of "a subtle but pervasive, nonlocal interconnection that is manifested by mind and consciousness" (2002), is meant to confirm what the theologian argued about the future and the goal of humanity. Therefore, convinced that we live in an interconnected and potentially conscious world, the team of researchers share the postulate according to which mind can act on matter. Inspired by the Batesonian representation of the mind, these researchers apprehend consciousness as a channel delivering information, a channel which should be exploited in order to change the course of events. In this regard, each would have an important role to fulfill : "the future is ours to mold [...]it will be a desirable future in proportion to our level of consciousness, individually and globally" (Nelson 2002). Through their commitment, the GCP team purport to speed up entry into the era of the spirit of which Teilhard de Chardin talked. Nevertheless, this upcoming era is not meant to emerge in cyberspace or online but in the offline world.

6　The WebBot Project

The GCP's technicized eschatology has bred other projects around global consciousness and around the necessity to anticipate the future in order to have some grasp on the course of history. Such is the case for the WebBot Project.

More mediatized than the GCP, WebBot took shape in the U.S. from 1997 to 2012. This is a computing program developed by two men, Clif High and George Ure, who also call themselves "the Time monks". On the basis of an esoteric and mathematical treatment of written data circulating through the Internet, WebBot measures the "global emotional context"[14] in order to foresee events to come. Primarily devised for the personal use of its conceiver -whose original wish was to anticipate the tendencies of stock markets-, the anticipation scope of the software was slowly enlarged to all kinds of events. In 2001, the program took on a public and lucrative dimension when Clif High declared that his software had predicted the 9/11 attacks as early as June of the same year. The statements fuelling this *post eventum* interpretation are the following : "a life-altering event" for Americans would take place in the next "60 to 90 days". The attacks were a tipping point in the software's use. It was indeed since Clif High's declaration that WebBot became renowned and that predictive reports became commercialized. Since that date, social and political events (terrorist attacks, political or economic crises) but also geophysical ones (tsunamis, earthquakes) have been announced. Clif High goes so far as to say that the 2003 north-American East-coast blackout, the 2004 tsunami in the Indian ocean, Katrina in 2005 and more recently the 2008 subprime crisis, the 2010 BP offshore drilling rig accident in the Gulf of Mexico as well as the nuclear tragedy at Fukushima in 2011 were all predicted by WebBot.

The nearly-systematic enumeration of these predictions serves to highlight how 'efficient' the software is and therefore to bolster the believability of the one prediction which would make WebBot extremely famous, *viz.* the predicted end of the world in 2012. The 2003 data from the software which were construed as forebodings of the end of the world were that "an alignment, in 2012, of the elliptical plane of the Milky Way" would take place and that "some unknown energy from space" would manifest itself. Facing predictions which place the individual in an environment on which he/she has no hold, the Time monks suggest an individual handling of these events which have an impact on the whole. They thus sell their anticipation reports, their financial advice on stock exchange speculation but also varied material salvation goods, such as books on survival techniques, plans for the building of unsinkable boats, of low cost bunkers, etc. How did they devise such a techno-eschatological universe ? How does global consciousness fit in this scheme?

14　For an accurate analysis of how the WebBot Project works, see Calheiros 2012.

The WebBot Project's fame rests upon the participation in an already existing millenarist framework, the re-appropriation of an apocalyptic imagery harking back to classic themes in Christian eschatology and upon the legitimation of the technical legitimation of predictions. On the one hand, the prime data were presented in such a way as to appeal to a public already attuned and ready to hear such predictions. The year 2012 was evocative of the end of the long Mayan calendar and as such represented the end of a cycle. The "alignment of the elliptical plane of the Milky Way" was a reference to the New Age theory announcing that the planets of the galaxy would align and that that rare cosmic event would beget unheard-of cataclysms[15]. On the other hand, the way the prediction was inserted in the documentary entitled *Doomsday 2012 : The End of Days* (produced by *History Channel*) and its broadcast to a massive online audience greatly boosted its fame among a large public, as well as among a more specific one[16]. The documentary presented motley apocalyptic prophesies, such as the Mayan calendar or Saint-John's Apocalypse. It converged their predictions towards the end of 2012. WebBot was therein hailed as the most recent prophet, the "numerical prophet" of the digital age confirming the validity of all preceding prophecies. Being the union of man and of the machine's scientific rigor, what made WebBot different was not that its prophecies were inspired by the divine word of God, but that it was capable of generating predictions inspired by whispers circulating on the Internet and finally seized upon by a computer.

The WebBot project is therefore an apocalyptic movement taking its place among the new socio-religious movements of the mystical-esoteric trend. On his blog called *Half Past Human, Adventures on Future Viewing*, Clif High displays his fondness for contemporary esotericism, for conspiracy theories, for Oriental philosophies and technophile values. The combinations therein made display a form of *bricolage* between religious tradition, *New Age* philosophy, occultism, science and political radicalism. The millenarist thinking at the heart of his project may also be called "improvisational millenarism" since it is independent from any ideological tradition and is characterized by variations on (or deviations from) sacred texts.

How idiosyncratic the software's working is dovetails with the cultural tastes of the web-communities that follow it. For the designers, the aggregation of big data and their analysis are believed to give access to the very contents of global consciousness, itself holding messages allowing to anticipate the future. According to Clif High, language is meant to have some unfathomed potential allowing to make predictions on events to come. In some unconscious way,

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15 This theory was so successful that NASA was forced to deny it.

16 The massive broadcast of this documentary on Western channels and Internet between 2006 and 2012, has largely contributed to the high visibility of WebBot Project on mass media. For exemple, it has been posted on various video hosting websites (Youtube, Dailymotion, etc.) and translated into several languages including French, Spanish, Russian and Arabic, broadcasting internationally the eschatological WebBot prediction. Samples from this documentary were also included in the French docudrama '2012, the conspiracy of the Apocalypse' broadcast on national channels *France 4*. This documentary was rebroadcast at least 5 times a year on French television between 2009 and 2012 on *TNT*.

individuals would be interconnected spiritually in the present *via* the "noosphere". What's more, time would not be linear, which might allow our "future we-s" to unconsciously deliver messages to our "present we-s", thereby accounting for each individual's propensity to broach this or that topic. The WebBot is therefore a research into the influence of future time upon the present through the synchronicity of conversations. The designers argue that if changes are perceptible at the individual level, the same holds true at a larger scale. The Internet is the most suited place for that : what it embodies is a virtual meta-brain simulating the convergence of individual consciousnesses, generating a humanity which is a boundless continuum, giving access to a massive and international production of written documents. What distinguishes the software is a specific rhetoric bringing together a techno-scientific register to devise a model for the future and an esoteric register to unveil its very working. In a digital technology-dominated world, the capacity to master computing in order to decode the future has made WebBot a recognized pioneer in this specific field. The mobilization of truth programs classically opposed by rationalism took on its full meaning among members of the counterculture fascinated by the esoteric aspects of science.

By 2006, belief in the WebBot project became more complex. The apocalyptic element blended with a salvation perspective based upon the leader's injunctions, summoning each person to control their thoughts in order to influence the course of events and thus to avoid the end of the world. With this project, Clif High and George Ure managed to gather numerous virtual communities around them. A typological analysis[17] of more than 150 North-American and French websites on WebBot reveal, in ideal-typical fashion, three main profiles of virtual communities adhering to the predictive and eschatological dimension of the WebBot project. These are:

1. The *New Age* websites on contemporary esotericism. Magic and technology are therein regarded as similar. According to these, the WebBot project illustrates this similarity. Moreover, these websites adhere to the theory that 2012 is a hallmark into a new era, and the software is apprehended by them as a complementary argument amongst the multitude of existing theories;

2. The technophile websites more or less buying into conspiracy theories. Here, it is the technical dimension which appeals to people. These are particularly interested in the production of predictive statements and to the measure of "humanity's global emotion" by a software;

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17 This research realised by the author was made between 2011 and 2012. It was first to identify and list the sites, forums and blogs English (USA and UK) and French (France, Canada, Belgium and Switzerland) dealing with WebBot Project. In a second step, it was to establish a network of these sites and blogs from Gephi software. The keywords used for the searches were "WebBot Project", "Projet WebBot", "Apocalypse", "end of the world", "forecasting software", "Clif High", "George Ure".

3. The Websites on apocalypse in 2012 and on various correlated prophecies. The WebBot project is therein regarded as a form of artificial intelligence announcing Apocalypse. The project's (apparent) scientificity is mobilized to legitimate the pre-existing postulate of a sure-to-happen end of the world.

WebBot has been considered by these web-communities, at least up until a few months before the announced end of the world for December 2012, as an "oracle", a "numerical prophet", "a hallmark in the figures of prophets, who had hitherto been human beings". What they shared was some initial common interest in eschatology, in new technologies and in the spiritual uses to be made of that. These communities therefore gathered around the strong expectation of change and around the alternative and groundbreaking use of WebBot. Nevertheless, adherence did not reach beyond the frontiers of cyberspace. Believers would not have strong links, neither with one another nor with the leader. The originality of these interrelations is characteristic of Internet 2.0 and of the forms of sociability made possible by it, i.e. the capacity to establish links with other Internet users exclusively on specific interests, links which can be made or unmade very swiftly. These communities being virtual, personal involvement in them is not as constraining as involvement in a not-on line community, wherein links and adherence are bound to be stronger. Rather experienced at the individual level in the offline world, and with clear ups-and-downs, adherence to WebBot's predictive statements gradually disappeared as 2012 evolved. This is why as opposed to the apocalyptic group analyzed by Festinger, the communities around the WebBot did not have to deal with the cognitive dissonances effects inevitably taking place when the prophecy fails (Festinger, Riecken & Schachter 1993).

7   Conclusion

Global consciousness is a belief whose working gives a main role to social interaction, and which apprehends the spiritual unity of humanity as a further stage of evolution. This belief crystallized around techno-sciences, which fuelled a new global representation of the world. Having passed through the mysteries of science, the informational paradigm constitutes the theoretical framework allowing to envisage information exchange as a necessary step for the survival of humanity. The seeds of such thinking thereafter found a fertile ground in the counterculture, which bred the wish to reinvest the collective world by technique. The Internet thus appeared as the one tool allowing to transcend individualities by aggregating thoughts. It is the numerical link generating communicational continuity and therefore a communion. Networking is endowed with a strong symbolical value since it has satisfied the necessity to unify forms of knowledge and individuals

with a view to bring about an overall improvement of human condition. The stress laid upon inter-relations therefore illustrates the need for continuity among beings, thereby allowing to place man in a totality again. The Internet, in this context, serves as a passage between entities, worlds and temporalities.

What is peculiar about the predictive software presented here is that they bring together global consciousness, anticipation of the future and of the end of the world. That this divinatory practice should have appeared at all illustrates not only the shifts in the belief in global consciousness but also how central technique is among the counterculture. For Erik Davis, the mystical and millenarist enthusiasm brought about by each means of communication reveals a peculiar rapport to technology (1998). In the present case, willingness to explore the unknown climes of cyberspace bears witness to the cultural integration within which this belief established itself. On the one hand, conferring a sacred dimension to cyberspace and wanting to control the environment by anticipating the future both partake of a phenomenon described as re-enchanting the world through technique, which is specific to the counterculture. On the other hand, this illustrates the significance of reflexive modernity inasmuch as the unknown, *viz* the future, is fraught with certain potential risks one needs to master and therefore to anticipate. The predictive software designers therefore seek to come to terms with what is ungraspable -the future- and suggest means to master it. In the WebBot's project case, global consciousness ultimately served an utilitarian and mercantile end through the sale of anticipation reports announcing in various ways some "imminent end of the world", and the sale of material salvation goods to survive that.

The millenarist dimension of global consciousness therefore adapted itself to a context in which the Internet is no longer a peculiar world unto itself but really the "continuity of the offline world in the online world" (Casilli 2010). An Internet user thus describes the WebBot project:

"For the first time, science is about to demonstrate and validate the existence of egregores, ie the collective unconscioussness, and possibly its tangible power over the real course of History:"[18]

Another says:

"People can influence events at a quantum level. Our minds exist outside of time, they do things they should not be able to do in the physical world. Human thought can change reality. How do you think that prayers work?"[19]

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18 http://www.neotrouve.com/. Comment posted on the website the 2nd Agust 2009 at 10h36 PM. Viewed the 12 february 2011.
19 http://www.aphroditeastrology.com/. Comment posted on the website the 7 October 2008 at 12h40. Viewed the 3 March 2011.

The spiritual interconnection of individuals as a teleological focus therefore remains central but becomes a tool allowing to improve the capacities of action of individuals by decrypting the future. By postulating an effect of the mind upon matter, the software designers confer a certain agency to thought and a role to each individual as regards the future of humanity. Their vision is one in which the unity of humanity has the power to swing the world into the "noosphere". That argument places the individual in a responsibility position vis-à-vis his/her thoughts and therefore vis-à-vis the future of humanity. It gives interrelation an essential dimension in so far as the evolution of humanity would only be possible *via* such social connectedness and *via* these converging thoughts largely amplified by technique. But if the beginnings of computing and the Internet have spawned millenarist utopias expressing the wish for an "as yet unmaterialized world, but a passionately yearned for one" (Bloch 1977), massive use of these media, or even the practical advent of these utopias, have absorbed a great deal of their radicality (Hervieu-Léger 1993, p215). Consequently, even though those who adhere to the statements made in predictive software think of the interconnection of thoughts as truthful and not as a form of speculative projection, there is nonetheless a noticeable secularization of discourses around global consciousness. The French representative of the WebBot project thus tells me:

> "Take a web chat situation. With that you can almost have a conversation from thought to thought. I don't even need my eyes to speak. It is a thought that goes through your hands, goes through the Web and onto the person at the other end, his / her hands and then brain. The fact of being linked with that via the Internet, you've got all of everybody's thoughts being centralized in servers, all this common thinking being interconnected with one another online. There's like a common pool of thought online and it's not so bad because it makes us evolve more quickly since we get other people's influence on us."[20]

The utopias giving the cybersphere the capacity to unify the spirits of disembodied individuals have faded away and been supplanted by beliefs on materiality and immanence. The end of the material world, perceived in the fusion with cyberspace, has transformed into the end of the offline world as announced by cyberspace. The use of global consciousness has therefore been geared towards predictions dealing solely with offline life. Positivism, specifically of the scientific kind, at stake in the rhetoric developed by predictive software designers has fuelled the notion that access to immortality is perhaps not impossible after all. Consequently, and more recently, speculations on heaven within cyberspace and on man potentially being improved spiritually have been supplanted by expectations of a humanity being enhanced physically. Promoted by a transhuman trend which is also the counterculture's offspring, such expectations invite us to ponder over the shifts at work

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20 Semi-structured interview conducted the 29 October 2012 at Neuilly-sur-Seine.

today in the expectations *vis-à-vis* the end of man. Technical improvements connected to the project bolster these beliefs and make the utopia a practiced one. An illustration may be found in the "singularity" sought after by transhumanism through research programs such as *Google Brain*. Thus, even though this technical utopia that started off with alchemy is today stripped of any spiritual terminology, it still remains a fact that this quest for the infinite is not devoid of religiosity.

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