Acceleration and Gnostic Timelessness in Silicon Valley

How Gnostic Spirituality has come to Matter in the 'Information Age'

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Introduction

Since a few years the Nederlandse Spoorwegen (NS), the company in charge of Dutch public train transport, changed their vocabulary for announcing delays. If a few years ago the intercom would declare the intercity to Groningen to be delayed by 15 minutes, now it will announce this train to *depart* in 15 minutes. Apparently, the word 'delay' strikes too much of a raw nerve in a society in which 'speed' - and 'acceleration' as the increasing pace of speed itself- has become akin to progress, profit, health and moral values like punctuality and trustworthiness (e.g. Tomlinson 2007; Hartmun and Scheuerman 2009; Hassan 2009; Gleick 1999). It is better to be associated with trains departing than with time being wasted.

Scholars and other public thinkers are debating whether current post-industrial societies are witnessing objective shifts in their temporal organizations (Tomlinson 2007; Hassan 2009) or whether this acceleration is merely perceived, popularly believed (Crang 2010) and 'nothing new' (Hartmun and Scheuerman 2009 in Crang 2010: 404). Regardless, it is often taken for granted that temporal shifts – whether actual or perceived - are caused by the technological make-up of a particular society. As most scholars agree, the recent

academic and popular cultural interest in speed and acceleration has everything to do with a qualitative shift in the type of technology that has come to structure many societies of today, particularly in the global north: 'The ubiquitous influence of telemediation' (Tomlinson 2007: 10), constituting today's 'Information Society' (e.g. Masuda 1975) 'Digital Age' (e.g. Negroponte 1995) or 'knowledge society', (e.g. Leadbeater 1999). Speaking from a global perspective, such scholars argue that if industrialization made speed a 'natural' feature of daily life by its introduction of conveyor belts, fast vehicles and communication technologies, the current proliferation of information technologies intensifies this pace. This happens through allusions to 'instantaneity' of contact, by multiplying the screens to which people have to react, by habitually translating material and offline life forms into informational 'flows' and by concomitantly promising that everything – once transformed into the digital – can be moved around at the speed of light.

Sweeping notions like 'Digital Age' or 'Information Society' may justifiably be regarded as totalizing and as 'resurrecting outdated modernization theories' (Coleman 2010; Ginsburg 2008), because they assume that the modes of information technological saturation by Euro-American elites are the model and end-state for development on a global scale. These notions leave implicit the question 'which digital technologies might make a significant difference for whom and with what resources' (Ginsburg 2008). Yet, on another level, such notions inform attempts by Euro-American citizens to make sense of the current state of their societies. In this context, as also observed by Tomlinson (2007: 3), when discussed in general terms as a phenomenon of contemporary Euro-American high-tech culture, speed and acceleration are rarely regarded

neutrally. To juxtapose two radically divergent Euro-American valorizations of acceleration: for transhumanists – those who dream of a future where technological improvements will deliver a world devoid of death, disease and decay – *acceleration* is the modality in which this bright future speeds towards us (e.g. Kurzweil 2005; *Accelerating Change* conference Palo Alto 2005). By contrast, for many others, including certain psychotherapists and self-conscious 'slow livers', cultural acceleration causes 'self-destructive practices' (Gerish 2009: 373) and 'unprecedented health problems' (http://slowmovement.com/).

As suggested by the dividing line between these voices and by their narratives, an increasing gap seems to emerge between, on the one hand, the rhythms of the biological body and the particularities of geographical space and, on the other, the increasingly demanding instantaneity of the digital sphere. Acceleration, in this digital context, is the anxious or happy experience of biological beings transforming into 'cyborgian beings'. Incarnations of these cyborgian beings may be found among representatives of the post-1980s generation, framed by public and academic discourse as 'digital natives' (Manafy & Gautschi 2011; Thomas 2011; Palfrey 2008). These digital natives are increasingly living in non-physical spaces and are attuned to the instantaneity of the digital sphere. Whereas some may be trying to 'keep up' with the pace and style of these 'digital natives', quite a different cultural response to digitized acceleration frames the narratives and practices of those seeking to 'switch off' and 'log out' in the context of yoga-retreats, mindfulness trainings or 'eco-village' communal living.

In these different ways of living and understanding contemporary life in Euro-American societies and beyond, digital life opposes itself to biological life,

young generations to older ones, and fast-paced living to slow living. Binaries such as these often implicitly structure many a discussion of 'time' in the current 'information age'. Yet, of course, everyday life is quite a lot messier than such binaries suggest. What to make, for instance, of the person who wants to live 'authentically' and 'slow' and who logs on to the internet to find out how to do this, even starting a blog in which she shares her experiences with slow-living? What to make of the programmer whose fingers are moving across the keyboard in a hyper fast pace while his mind is in a concentrated state of stillness? What to make of the fact that the current information technologies allegedly speeding up societies have developed in close conversation with the 'back to the land', meditative aspirations of 1960s hippies?

It is this messy reality that I seek to explore in this paper, in order to arrive at a more nuanced understanding of the relationship between time, information technologies and current imaginations of the 'information society'. By zooming in on the cultural particularities of the San Francisco Bay Area, a region that is often imagined as a prototypical 'information society' (English-Lueck 2002; Castells 2000), and by seeing these particularities as exemplary for how Euro-American designers, politicians, activists and artists more broadly give cultural form and meaning to their relationship with 'information' and 'information technologies', I argue two things: First, that it is misleading and too narrow-focused to see acceleration as the sole driving logic that shapes cultural experiences and understandings of 'information' and information technologies. This narrow focus downplays other temporalities that may structure human experiences with the digital. More specifically, one particular temporal form that I see as having played a significant role in the formation of Bay Area information

society is a ‘gnostic’ one. Gnosticism is concerned with the ‘unveiling’ of one's 'true being' and the 'true nature of reality' underneath ‘false’ representations of reality by authorities in everyday life. As such, it became a major theme in the so-called ‘counterculture’ of the 1960s and 70s. Gnosticism has a particular temporal form that is quite the opposite of the modernist idea of time acceleration. Gnostic temporality is decisively non-linear, aspires to the ideal of transcending time altogether, and of creating a sense of immediate connectivity between all that exists. While gnosticism is generally seen as a form of spiritual practice and hence as distinct from technology creation, the main purpose of this paper is to show how this gnostic temporality has come to bear on interpretations and treatments of information and information technologies.

I can only make this argument by means of a second one: We can’t fully understand the current information society in a cultural sense if we only focus, as some scholars do, on the specific ‘affordances’ of the informational gadgets that surround us in our everyday life. In addition, we also need to take into account the cultural understandings that inform our relationship with these gadgets, and acknowledge that these understandings are often shaped in the context of long-standing practices of mediation, ideas about knowledge and ontological structures. As we will see, some of these practices have roots in cultural spheres that seem, at first, quite distinct from the practices of technology corporations and research labs. We thus need an understanding of the larger cultural environment in which the information technological gadgets we use on a daily basis have been shaped.

My argument is an extension of a recently finished PhD thesis (Zandbergen 2011) that sought to situate the inventions of information

technological corporations and research laboratories in the San Francisco Bay Area, in a larger cultural environment of countercultural activism and gnostic spirituality. If we may consider the San Francisco Bay Area an early prototype of an 'information society', it is important to note how this society has been culturally shaped not only through the 'invention' of 'revolutionary' digital technologies such as the personal computer and the Iphone, but by a much broader notion of what information is: something that moves in and out of all kinds of 'media', varying from computers, to human bodies, plants, minds and the universe at large. It is also not a society where information uniquely engenders experiences of acceleration, but also of gnostic – timeless - unity.

The understanding I want to generate regarding the emergence of the Bay Area information society can only be advanced by paying attention to how disciplinary and ideological spheres have mingled in the recent history of this region; and by taking seriously the forms of thought and practice that emerge as part of this mingling. In this way, the analytical perspective that I employ is partially 'native' to the San Francisco Bay Area. This region has a history of celebrating boundary-blurriness and various 'cultural brokers' in this region have already provided the framework through which this alternative history of time and technology can be told. In the following, it is partly by attaching my framework to theirs, that I will shape my argument.

The 'fluid boundaries' of Silicon Valley

The material fabrication of computer technologies increasingly takes place in regions outside of 'Silicon Valley' in countries where labor is cheap; and the genesis of the 'information society' has always already implied many different global sites (e.g. Castells 2000). Nevertheless, Silicon Valley is widely regarded as one of the most significant geographical and intellectual homes of the information technologies that more and more people worldwide have on their desks, carry in their pockets or find in their immediate daily environments.

Silicon Valley is the area located in between San Francisco (to the north) and San Jose (to the south) on the west coast of the USA. Since the arrival of the Spanish missionaries in this region, orchards dominated this largely agricultural area. In the early 1970s, urbanization changed the character of this space, and the settlement of several large semi-conductor companies – producing silicon as one of the basic components of computers – gave this area its current name. Besides various semi-conductor companies such as Intel, this area is populated with venture capital firms, university institutes, military-funded and private research laboraties and personal computer and software companies.

On a daily basis, the anthropologist English-Lueck (2002) writes, Silicon Valley is visited by hosts of 'foreign students, government officials, potential entrepreneurs and journalists' who try to capture the 'essence' of the valley in order to understand the entrepreneurial wonders that it spawned (2002: 111). What they will find is that the 'culture' of the valley, and the 'aura' of its products and of its main entrepreneurial heroes such as the late co-founder of Apple, Steve Jobs, is inextricably tied to the mythologized larger region that Silicon Valley is part of. In a geographical sense, this larger region comprises the San Francisco Bay Area as well as the beaches, the forests and the deserts that

surround it. The mythologized contours of this larger region include memories of the 1960s and 70s when student protests, hippie communes, psychedelic festivals, experimental art and forms of spirituality based on the imagined 'Oriental' and 'the native American', made this region one of the sites of the so-called counterculture. Today, independent film houses, Whole Foods stores, vegan ice-cream shops, Ayahuasca churches, neopagan gatherings, yoga centers and 'five rhythm' dance halls in Berkeley, San Francisco, San Mateo and Santa Cruz still testify to this countercultural past.

The confluence of Silicon Valley with this larger imaginary geography can be found, for instance, in the Silicon Valley offices of Google. The lobby of Google contains, as communication scientist Frederic Turner (2009) observed 'two dozen unframed photographs of giant sculptures set out in a flat, white desert and of fireworks exploding over the head of a giant neon stick figure' (2009: 74). These photographs are images of the Burning Man festival, 'an annual celebration of art and temporary community' in the Nevada desert. This festival attracts 'thousands of Bay Area programmers, marketers and technical executives' (Ibid.), as well as independent artists, yoga teachers, dance practitioners, musicians, psychedelics advocates and, of course, the many visitors who don't fit such labels. Burning Man is widely regarded as the contemporary incarnation of the psychedelic hippie festivals that took place in and around the San Francisco Bay Area in the sixties and seventies. The event, Turner writes, forms the 'key cultural infrastructure for the Bay Area's new media industries' (Turner 2009: 73, 74). In line with this understanding, I argue, we need to understand the 1960s and 70s counterculture at large as a crucial

cultural backdrop against which the personal and networked computer technologies of the Bay Area information society have come to fruition.

When reflecting on the 'success' of Silicon Valley, both scholars as well as Silicon Valley entrepreneurs give this mixing of countercultural and entrepreneurial attitudes a central place in their explanatory framework. This framework imagines the products of Silicon Valley, the nature of its organizations and the mindsets of its technology-workers, to emerge from the same source that also spawned the Bay Area counterculture. The spirit that is thus celebrated is anti-authoritarian, risk-taking and irreverent (Saxenian 1994). Even more importantly, the spirit that is generally celebrated as being uniquely characteristic of this region – both in terms of work and leisure – is that of *doing* and *making*: Just as the Californian counterculture was allegedly characterized by a dismissal of too much political theorizing and an emphasis on changing the world by *living* differently (Roszak 1969; 2000), so - the story goes - did the hackers of Silicon Valley change the world by building empowering tools (e.g. Turner 2006; Markoff 2005; English-Lueck 2002; Ceruzzi 2000; Castells 2000; Hiltzik 1999; Cringely 1996; Coupland 1995; Saxenian 1994; Freiberger & Swaine 1984; Larsen & Rogers 1984; Levy 1984).

If we look at the larger cultural setting in which the Bay Area information society has emerged, placing the celebrated overlap between the spheres of hippies and hackers at the focus of our attention, we may understand this information society as encompassing much more than temporal acceleration caused by the fast flow of information through digital media. It has also emerged in relation to another understanding of what 'information' is, through what types of media it flows and how it relates to time. This broader understanding of what

an information society may encompass, can be advanced when we take account of the role that was played by countercultural activists, and particularly by gnostic hippies, in the formation of the Bay Area information society. Whereas it is common to think of the hippies as inherently anti-technological, and as particularly opposed to the rationalizing, hierarchical qualities of the computer, since the 1960s hippies in the San Francisco Bay Area have also made computer technologies relevant to their spiritual, sensorial lifestyles – thereby ultimately transforming and affecting broader cultural understandings of information technology. As part of this process, information technologies came to be associated not only with rationalization and acceleration but obtained also particular affective qualities. Moreover, perceived through the conceptual and experiential frameworks of the hippies, information technologies came to be regarded as only *one* form of media among many others affected by information flows – the human body being another such 'medium'. In this context, information technologies became implicated into an overarching gnostic framework, in the context of which there is no linear time, where no real divisions between nature and technology exist, and where different time zones and geographical locations are intrinsically related.

In order to bring these hippie influences on the formation of the Bay Area information society into focus, we need to challenge the taken-for-granted notion that the hippies of the sixties were inherently opposed to technology in general and to computers in particular.

Opposing Technocracy Not Technology

> It strikes me as beyond dispute that the interests of our college-age and adolescent young in the psychology of alienation, oriental mysticism, psychedelic drugs, and communitarian experiments comprise a cultural constellation that radically diverges from values and assumptions that have been in the mainstream of our society at least since the Scientific Revolution of the seventeenth century. (Roszak 1969: xii)

In 1969 the Berkeley professor of history Theodore Roszak used the term 'counterculture' to describe the cultural disaffiliation among students, artists and intellectuals he observed around him at the time. Since the coinage of the term ‘counterculture’ in this context, this term became the ‘exclusive signifier for the sixties version of cultural radicalism’ (Braunstein and Doyle, 2002: 7), as developed both in the San Francisco Bay Area as well as in other parts of the world.

There are many objections to be made against the use of the term ‘counterculture’ as an indicator of radicalism in the 1960s and 70s. First, it may be argued that by using one term to refer to ‘sixties radicalism’ we grossly simplify the incredibly large variety of forms of ‘radicalism’ that characterized the student campuses, artistic enclaves, and city community halls of Australia, Europe and the USA. Moreover, the fact that the terms ‘counterculture’ and ‘sixties’ have become interchangeable in the public mind overlooks that much ‘countercultural activity’ in fact stretched out far into the seventies and decisively shaped parts of societies today. Also, the term ‘counterculture’ may be too much of an ‘emic term’, overstating the differences between this

'counterculture' and 'mainstream culture'. As such, the term does not take into account the multiple ways in which student protestors and artists depended on 'mainstream society' – for time, money, resources, ideas etcetera – and even perpetuated forms of individualism and entrepreneurialism of society at large (e.g. Bell 1978). Nothwithstanding these reasonable forms of critique, I will use the term 'counterculture' nevertheless, not as an objective indicator of a cultural movement standing outside of mainstream society, but as a particular antinomian mindset that structured the experiences of many intellectuals and artists – young and old - in the 1960s and 70s San Francisco Bay Area.

An important aspect of this mindset was a drive for 'authentic living' and non-hierarchical organization, which often translated into an outspoken hostility towards the idea of computer-organized society. In 1964 Berkeley students for instance protested against the bureaucratic powers of university administrators, and particularly against their use of computing in asserting this power. At that time, the default computer was the 'mainframe', a gigantic machine that needed careful treatment and broke down at the smallest violation of procedure. They needed to be operated by trained experts, kept in air-conditioned environments and executed calculations only when they were fed instructions through punchcards. As the warning signs on these punchcards – 'do not fold, bend, spindle, or mutilate' – indicated, these cards were to be kept in perfect condition. Students came to see these procedures as one more sign of the way in which machines imposed their 'cold' logic onto the otherwise warm and human world. To press this point, during one demonstration by Berkeley University students in 1964, a student had pinned a sign on his chest, that read: 'I am a UC student. Please do not fold, bend, spindle, or mutilate me' (Turner 2006: 2).

The student protests against mainframe computers was in fact part of a general countercultural critique of *technocratic society* (e.g. Roszak 1969; Berger 1973; Reich 1970; Marcuse 1964; Goodman 1959) and not of technology itself. Yet, in the public mind, the counterculture of the 1960s is still perceived as inherently anti-technological. This image is quite convenient for neo-conservative politicians such as Newt Gingrich in whose interest it is to severe any associations between technological development and left-wing engagement. For Gingrich, the computer revolutions of Silicon Valley signal a victory over the left-wing aspirations of hippies. As he put it in 1984: 'in the troubled 1960s our hippies overshadowed our astronauts and the anti-technological bias of the Left overshadowed the possibilities of the computer age' (Roszak 1994 [1986]: 25).

Yet, this historical understanding overlooks the fact that for many hippies technological media played quite a significant role in their experiments with new ways of being and perceiving. The ontological and epistemological notions that, implicitly or explicitly, informed such experiments still define aspects of the current Bay Area information society. Therefore, instead of holding on to the binary notion that opposes hippies and hackers, authentic living and artificial living, slow and fast culture and past-oriented and future-oriented ways of living, we need to understand the subtle and messy ideologies and forms of practice that cut across these binaries. This messiness is well represented by a periodical that was read by hippies who lived in communes as well as by computer hobbyists and that discussed tools for rustic living as well as all kinds of new technological forms of media, including computers. This periodical was entitled the *Whole Earth Catalog*.

'We Are As Gods and Might As Well Get Good At It'

The *Whole Earth Catalog* was founded in 1968 by Stewart Brand, and put together in Menlo Park at the offices of the Portola Institute, a non-profit institute that spawned various 'consciousness-raising' projects.[i] As is the case with the interests and activities of Stewart Brand himself, it is difficult to pigeonhole the *Catalog* in a clearly-defined niche of interest. In the early 1960s, Brand was a biology student, a freelance photographer, he had joined the army, had shown interest in the computer science projects then conducted at Stanford University as well in the alternative communities that comprised the Bay Area counterculture.

Both in the groups to which it catered as well as in its contents, the *Whole Earth Catalog* reflected the diversity of these interests. Appearing, as Fred Turner (2006) specifies, 'biannually for four years, ballooning to more than 400 pages and selling more than a million and a half copies' (2006: 488, 489), the *Catalog* was read by 'San Francisco's bohemia and the back-to-the-land movement (...) scientists and computer technologists from the Bay Area, East Coast artists and engineers, environmentalists, and, ultimately, even do-it-yourself suburbanites' (Ibid). The *Catalog* contained a dazzling amount of information on all kinds of topics, serving one overarching goal that was implicit in the opening lines that Brand printed on the first page of each edition: 'We are as gods and might as well get good at it'. With this line, Brand referred to the 'power of the individual to conduct his own education, find his own inspiration, shape his own environment, and share his adventure with whoever is

interested.' Brand presented the *Catalog* as the place that gathered the 'tools that aid this process.'

As suggested by the subtitle of the *Catalog* - *Access to Tools* - the periodical purported to provide not only intellectual reflections on the ideologies of self-reliant living, but sought particularly to be a practical assistant in this pursuit. It discussed the practicalities of handicraft tool-use, of communal organization and communication, of house-building, energy-production, transportation, crop-growing, cooking, education etcetera. Inspiration for these new ways of living came from a wide variety of disciplines and traditions of thought and practice. The various sections of the *Catalog* reveal this multi-disciplinarity, presenting a wide variety of topics such as 'Understanding Whole Systems,' 'Shelter and Land Use', 'Industry and Craft', 'Communications', 'Community', 'Nomadics' and 'Learning'. Each of these sections contained book reviews and discussions that approached the themes from a combination of disciplines such as anthropology, history, psychology, engineering, astrology, neurobiology, art history and media theory.

As suggested by this emphasis on practice, its radical multi-disciplinarity and wide choice of epistemological approaches, if there is one thing that characterized the *Whole Earth Catalog* most it is that it aspired to be *transformative*. The knowledge that it presented purported to be *active* knowledge, and to have a direct, immediate affect on its readers. Some comments from readers – given both at the time and in hindsight - suggest that the *Catalog* was indeed directly transformative by acting as an actual extension of their senses and by *embodying* new, and better, world models. In one letter printed in the *Catalog* a subscriber depicted the periodical as a tool that helped

people 'become less Blind (…) [and to bring] special sight [and] much needed lenses or Aids [to give us] extra eyes and ears to help us make our Way in the Dark'.[ii] Another letter depicted the *Catalog* as an 'Expanding Universe' in his mailbox.[iii] In an interview with me, a former subscriber referred to the *Catalog* as a magazine full of 'secrets',[iv] revealing the 'hidden principles' that operate in society. Also reflecting in hindsight, another former subscriber called the periodical the 'foundation' of his 'world model'.[v]

Besides thus acting as a pointer to information that lay outside of its own realm, the *Catalog itself* acted as the embodiment of a kind of logic that many of its readers understood as ontologically and experientially true. By bringing together, side by side, disciplines and forms of practice as divergent as art, social science, natural science, religion and all the forms of knowledge favored by these divergent practices, i.e. rational thinking, physical creation, experiential knowing, visualization, etcetera, the *Catalog* purported to give a *total* view and experience of reality. To the *Catalog* reader, this cacophony of voices, approaches, epistemologies and forms of practice made sense only because this logic was at the heart of the deconditioning aspirations of countercultural activism more generally – aspirations that can be qualified as gnostic. In the following I will discuss the epistemological, ontological and affective dimensions of countercultural gnosticism, with a particular focus on how these dimensions structured a particular conceptualization of time. Hippies put this gnostic framework into practice through physical experimentation, exercise and discipline – seeking to overcome linear notions of time in order to experience another, universal and synchronic dimension of existence. After showing this, I

argue that these physical practices and understandings became relevant also to the understanding of information and information technologies.

'Remembering All that Ever Happened' – A Gnostic Understanding of Time

One feature of the Californian counterculture was that it found its battlefield not in political deliberation, but in the domain of perception (Roszak 1969). In the Californian countercultural mindset, social and biological conditioning, at work in the context of everyday civilized life, are epistemologically 'impoverishing'. In addition, countercultural thought invested in the optimistic notion that people can free themselves from conditioned perception in order to become 'whole' and 'full' again. This focus on 'deconditioning' inspired those who turned to psychedelics, to spiritual practice and New Left politics alike:

In *The Doors of Perception* ([1954], 1961) for instance, the British novelist Aldous Huxley discussed his experiences with the psychedelic drug mescaline. In this essay, which was widely read within the countercultural milieu, Huxley had postulated the idea that in normal, everyday life only a fraction of the full cognitive potential of human beings is used. The 'brain and nervous system and sense organs' are predominantly 'eliminative and not productive.' Yet, in potential, Huxley wrote, 'each one of us is potentially Mind at Large.' (Huxley, 1961 [1954]: 21, 22) To be 'Mind at Large', is to be able to perceive reality in full.

In similar terms, the British-born self-educated theologian, philosopher and lecturer Alan Watts (1915-1973), also an inspirational figure in Californian countercultural circles, postulated the inherent difference between the 'grandeur

of the cosmos' that can be revealed in 'genuine religious experience', and 'society's official version of reality', which he considered 'silly' and 'inadequate' (Watts in Anderson 2004: 54). This 'official version of reality', to Watts, is 'a subjective but collective nightmare (…) [it is a] construct of socialized conditioning and repression, a system of selective inattention whereby we are taught to screen out aspects and relations within nature which do not accord with the rules of the game of civilized life.' (Anderson, 2004: 70)

Just as Watts found it his life-task to oppose such socialized conditioning and repression, just so it became a motivational theme for the New Left students at the time. The *Port Huron Statement* (1962) the founding document of the New Left organization *Students for a Democratic Society*, imagined human beings as inherently endowed with unlimited potential. By searching for 'real life' that would be more 'organic,' more 'spontaneous,' more 'human', and 'less emotionally repressed', the cultural theorist Rossinow writes, 'the New Left's cultural politics aimed at the restoration of a lost humanity, or the fulfillment of a potential never realized.' (Rossinow 2002: 113)

Scholars have identified the restorative and deconditioning projects of the 1960s counterculture as ideal-typically 'gnostic'. Historically, gnosticism is a dualistic religion that can be traced back to late antiquity in the Roman empire and that considered the physical world as 'a prison and an illusion, created by a false god (the Demiurg) and guarded by evil demons (the Archons)' (Jonas 1958: 44). For gnostics, the ultimate purpose of life was to obtain 'gnosis': knowledge of one's 'true being' and the 'true nature of reality.' Gnosis could be obtained by moving beyond reason and by forgetting what one has learned about the world, while engaging in 'mystical' states of mind. In this way could one 'unveil' the

truth behind the facade of the everyday world and 'remember [one's] divine origin' (Ibid.). In the 1960s, gnosticism became a central component of the countercultural critique of the Western society as 'brainwashing' people into accepting 'reductive understandings of reality' (e.g. Hanegraaff 1996). This gnostic counterculturalism had quite specific temporal, epistemological, ontological and affective qualities, which I outline below.

In a general sense, gnosticism as manifested in the context of the North American counterculture of the 1960s, was informed by a critique of linear time: It was maintained that the very notion of linear time was one feature of conventional, reductive understandings of reality. By contrast, the gnostic counterculturalists favored a much more unitary notion of time, which they explored both intellectually as well as through the adoption of particular 'experimentations' and 'lifestyles'.

With respect to the intellectual explorations of gnostic time, Aldous Huxley commented on the temporal dimension of gnosticism in his *Doors of Perception,* cited above. Huxley argued that 'each person is at each moment capable of remembering all that has ever happened to him and of perceiving everything that is happening everywhere in the universe.' (Huxley, 1961 [1954]: 21, 22) For Huxley thus, the separation of human experience in segments of time as well as separated across space, is one aspect of more general social and biological conditioning: In reality and in potentiality – to be realized in a myriad of ways – it is possible to experience time as a confluence of 'all that has ever happened everywhere in the universe.'

This gnostic, non-linear understanding of time was married to specific ontological and epistemological understandings that were congruent with this

non-linearity. A term that was used often in the 1960s, that alludes both to the ontological and epistemological aspects of gnostic temporality is 'synchronicity'. For example, in his collection of essays *Synchronicity: An Acausal connecting principle* (1960), the Swiss psychiatrist and inspiring figure for the Californian counterculture Carl Gustav Jung employed this notion in order to question linear time and geographical space as the sole frameworks of human experience. He postulated the existence of another 'mechanism' that connected things to each other, a mechanism that could only be observed intuitively and that connected future and past events and geographically distinct places to each other. In connection with this interest, Jung set up experiments in order to study forms of perceptual activity that were not necessarily dependent on the five senses. Among these forms of perception are intuition, or 'mantic perception' (1960: 450), knowledge of archetypes, Extra-Sensorial-Perception (ESP) and Eastern revelatory practices such as the I-Ching. Jung also postulated the possibility of the existence of a form of consciousness that is unrelated to the organic human being (1960: 509). Such an interest in synchronicity and extra-, and multi-sensorial forms of perception has been typical for the gnostic consciousness that has defined the Californian counterculture at large - from the Beat poets of the 1950s to the hippie communards in the 1970s and to New Age spirituality to date (e.g. Aupers et.al. 2008; Campbell 2007; Anderson 2004; Pels 1998; Hanegraaff 1996; Heelas 1996; Lasch 1992).

Another feature of countercultural gnosticism is its affective nature. Countercultural gnosticism was characterized by a blurring of the boundaries between *knowing* and *doing*, i.e. between *reflection* and *action*. 'Knowledge' understood 'gnostically', as Aupers et.al (2008) put it, is not just 'theoretical

information about things but is itself, as a modification of the human condition, charged with performing a function in the bringing about of salvation' (2008: 690). In other words, knowledge, from the gnostic perspective is *active* knowledge and has transformative power. It is in this way that the counterculture was inherently optimistic. While rooted in quite a pessimistic understanding of humanity in the context of everyday life, counterculturalists were ultimately optimistic in their belief that – by becoming aware of holistic reality – humans could actually be transformed for the better and transform the world in turn.

In its ultimate form, the countercultural quest came down to nothing less than a search for a new archetypical human being, a new kind of persona to 'carry into the new decade' as the President of the American Psychological Association Abraham Maslow had put it (in Anderson 2004: 208). This 'new type of persona' had to be akin to the 'model heros' of past times – 'the hero, the gentleman, the knight, the mystic' - more than the hero 'given to us by our culture', which is the 'well-adjusted man without problems'. Instead of this 'very pale and doubtful substitute', Maslow hoped, 'we shall soon be able to use as our guide and model the fully growing and self-fulfilling human being, the one in whom all his potentialities are coming to full development' (Ibid.: 66).

As is typical for the self-ascribed non-political counterculture, this new type of persona came to be imagined, not in terms of social reform or political revolution, but in terms of a reconstititution of human perception – beginning with the human body. Since the human body was seen as the domain in which socially conditioned, illusionary notions of time and being are incarnated, this was also the domain where they had to be overcome. All kinds of physical

exercises and forms of discipline were employed so as to instill different, non-linear and a-causal experiences of time and space. And in a complex interplay of physical exercise and technological mediation, these gnostic experiments also became relevant for the way in which these hippies – as well as many others – came to think of media technologies as having gnostic potential.

Gnostic Time and Media Technologies

Prior to founding the *Whole Earth Catalog*, Stewart Brand had participated in the activities of a group that called itself *The Merry Pranksters*. Tom Wolfe's book *The Electric Kool-Aid Acid Test* (1968) offers a nice window onto the life of the *Pranksters*, who had followed the novelist Ken Kesey to a commune in La Honda in California to live an 'experimental lifestyle'. According to Wolfe, synchronicity played a large role in this experimental lifestyle. The Pranksters reveled in 'intersubjective experiences' like 'shared dreams', instances of 'mind-reading' and 'future-prediction' (Wolfe 1968: 100, 114). Experiences such as these were proof to the Pranksters that they were more and more 'tuned', or 'synched in' with one another and with the larger universe. The Pranksters referred to this mysterious 'connective principle' as an 'Unspoken Thing'. Although an 'Unspoken Thing' for the Pranksters, Wolfe identified the principle that occupied the everyday life of the Pranksters as 'synchronicity' (1968: 129).

Besides role-playing games, psychedelics and particular everyday habits that were to make the Pranksters more intimately, intuitively and immediately involved with and aware of their environment; high-tech equipment played a

large role in the gnostic pursuits of the group. For instance, both the school bus that the Pranksters owned as well as the house in which they lived and the forests around it were wired with speakers, microphones and amplifiers. As for the bus, the Pranksters had cut a hole in its roof so that speakers and microphones could be attached on top of it. In this way, sounds made inside the bus could be picked up and broadcasted to the outside and vice versa. The broadcasting system in the bus was also used to create more direct 'feedback loops': for instance, a person could record his voice, feed this recording back to his headphone, add extra lines and variations to this recording in the microphone, record this again and feed it back into the other ear (1968: 66).

Just as the bus, also the larger property of the commune was wired, as Wolfe describes:

> (…) there were wires running up the hillside into the redwoods and microphones up there that could pick up random sounds. Up in the redwoods atop the cliff on the other side of the highway from the house were huge speakers, theater horns, that could flood the entire gorge with sound. (...) boxes and machines and things (...) glowed, winked, hummed, whistled, bellowed, and microphones that could pick up animals, hermits, anything, and broadcast them from the treetops (...) (1968: 126, 127).

Sounds thus recorded from the highway as well as from the forest were broadcasted inside the house or mixed with sounds from the larger landscape. In these ways, the Pranksters created a 'cacophonous' multi-media environment in which many different signals across space and time were made to connect. A kind of synchronistic, environmental awareness was thus created, that would be impossible to generate if one relied on the 'logical regimes' that allegedly framed

perception conventionally. The culmination of this cacophony was the 1966 Acid Test, a three-night event that was co-organized by Stewart Brand and that would bring together, as Brand envisioned it, 'all the new forms of expression that were kicking around in the hip world at that moment' (Turner 2006: 224).

The acid tests of the Pranksters are widely regarded as the precursors of electronic dance events in the late 1980s and early 1990s (also called 'raves') as well as of the contemporary Burning Man festival (e.g. Shafer 2006: 57; Kozinets and Sherry 2004). Having emerged in the context of a Silicon Valley that has rapidly expanded its number of corporations, some scholars have theorized the environments of raving and Burning Man as providing magical and intimate contrast to the otherwise rational, alienating, money and status dominated larger environment of Silicon Valley (e.g. Hockett 2005). The notion that these places of music and dance are 'automous zones' (Bey 2003) – i.e. environments that are qualitatively different from mainstream life - is close to the emic perception of participants of these environments and largely responsible for their appeal. Yet, if we follow the historical emergence of these environments – from the Pranksters of the 1960s to Burning Man today – we may also see how they have fed into, given incentive to and provided legitimacy for the products spawned by Silicon Valley corporations.

In addition to the electric technologies pioneered by the Pranksters, since the 1960s participants of the counterculture have celebrated quite a variety of other media technologies for their gnostic capacities. A similar gnostic incentive that informed the cacophonous environments of the Pranksters, for instance, also informed the enthusiasm of the editors of the *Whole Earth Catalog* for photography. The *Whole Earth Catalog* reserved quite some room to show

photographs, the most prominent one being one of the first pictures of the earth taken from space featuring on each cover of the *Catalog*. As the New York Times journalist John Markoff put it: 'He [Brand] realized that an image of the whole earth might inspire others to have a more complete sense of man's place within the planet's ecology and all of the implications that flowed from such a view of the world' (Markoff 2005: 154). In addition to printing a picture of the earth on its covers, several *Catalogs* contained picture albums from NASA; photo albums with aerial photography of the earth that features as a reminder of the 'patterns in nature'; and a picture book of the 'surface anatomy' of the human body that reminds one of the comparisons between the large-scale patterns in nature and the intimate patterns of the human body.[vi] These different kinds of photographs acted as forms of media that did not only *reflect* a particular kind of holism, but that were intended to bring the viewer into a profoundly holistic mindset – thereby tapping into universal principles and forgetting about temporal, cultural and spatial differences that otherwise structure everyday experience.

A similar logic framed the enthusiasm in the *Catalog* for the Geodesic Dome, an invention by the engineer and 'patron saint' of the Catalog Buckminster Fuller. The dome was a semi-spherical structure composed of triangular elements that Fuller believed 'tapped the deep geometrical logic of the cosmos' (Roszak 2000). This dome was not only envisioned – and built in the cases of some communes – to function as a mere shelter, but also as having profound social effects on the people living in it. By being spherical, people would live in more communal and harmonious ways compared to the boxed conventional houses. The effects were also considered to be psychological and mind-

expanding. As one of the founders of the commune *Drop City* in Trinidad, Colorado proclaimed:

> To live in a dome is -- psychologically -- to be in closer harmony with natural structure. Macrocosm and microcosm are recreated, both the celestial sphere and molecular and crystalline forms. (…) Domes break into new dimensions. They help to open man's perception and expand his approaches to creativity. The dichotomy between utilitarian and aesthetic, between artist and layman is broken down.
>
> (Bill Voyd, 'Drop City,' in Theodore Roszak 1972: 276)

By acting as a conduit for universal principles, relating macrocosm and microcosm to each other, having psychological and social transformative power, the Geodesic Dome can be considered as a medium that was celebrated for its affective power: its very structure gave immediate access to universal principles – that were precisely universal because they cut across bodies and realms of reality that are distant in time. It fused the universal logic of celestial bodies that grew and disappeared millions of years ago to the temporal regimes of molecules in the Dome structure and the psychological structures of the people living in the dome. Moreover, the dome itself was considered to be a creation that combined the ancient wisdoms of past civilization with the cutting-edge sciences of the modern age.

Another technology that had the function of being transformative was biofeedback. A biofeedback setting typically consists of small sensors attached to the body that measure heart rate, blood pressure, perspiration or brainwaves. These sensors were furthermore connected to 'output devices' that 'feed back' this information to the subject. In the early 1970s, various biofeedback self-help manuals appeared on the market and also the editors of the *Catalog* were highly

enthusiastic about it. [vii] Whereas certain biofeedback manuals at the time seemed to struggle with the terminology to describe the process being measured ('consciousness', 'awareness', 'intent', or 'will'), other manuals did not hesitate to present biofeedback as a technique for obtaining a 'real knowledge of the self' – a knowledge that 'has been lost by humanity over centuries by civilization'.[viii] Framing conventional society as 'dominated by stresses and strains, by considerations of time, money, status' (Null & Null 1974: 88) and as engendering an 'abnormal state' in which people are 'out of touch with their feelings', biofeedback was celebrated as a tool that could restore universal consciousness. This consciousness was not dominated by the fleeting experience of everyday hurried life, but as one that – á la Aldous Huxley - triggered latent memories of Universal Unity, the interconnected nature not only of body and mind, but of the universe at large.

Bay Area Brokerage

> Mr. Slippery looked around him, using all his millions of perceptors. The Earth floated serene. Viewed in the visible, it looked like a thousand pictures he had seen as a human. But in the ultraviolet, he could follow its hydrogen aura out many thousands of kilometers. And the high-energy detectors on satellites at all levels perceived the radiation belts in thousands of energy levels, oscillating in the solar wind. Across the oceans of the world, he could feel the warmth of the currents, see just how fast they were moving. And all the while, he monitored the millions of tiny voices that were now coming back to life as he and Erythrina carefully set the human race's communication system back on its feet and gently

> prodded it into function. Every ship in the seas, every aircraft now making for safe landing, everyone of the loans, the payments, the meals of an entire race registered clearly on some part of his consciousness. With perception came power; almost everything he saw, he could alter, destroy, or enhance. By the analogical rules of the covens, there was only one valid word for themselves in their present state: they were gods (Vernor Vinge, *True Names* [1981] 2000: 300, 301).

There is no straightforward way in which the gnostic consciousness advanced in the context of the Prankster 'acid tests', Geodesic Dome building, the *Whole Earth Catalog*, and biofeedback experimentations in the 1960s and 70s, related to the development of personal computers, the World Wide Web and the internet at large. Looked at it one way, the dense, crazy, drug-infused, nature-oriented and mystical spaces of the 1960s hippies were worlds apart from the neon-lit computer halls at Stanford University and other Silicon Valley research laboratories. Here, computer geeks drank their cola, ate their Chinese food, created code and, as I learned, often felt unrelated to, excluded and even alienated from the hippie weirdness. [ix]

Yet, there were also quite some people who travelled between and across these scenes and who recognized the work being done in both spheres to be similar. In the 1960s, Stewart Brand was one such a broker, recognizing correspondences between the environmental consciousness explored at psychedelic rock concerts and the work done by 'interface designers' at computer science labs (Turner 2006; Ceruzzi 2000; Brand 1995, 1987, 1974). By reporting on developments in the field of computer hardware development and

computer interface design in the Catalog; or by framing computer development in the gnostic, anti-hierarchical terms of the counterculture (e.g. Levy 1984; *Peoples Computer Company* 1974; Nelson 1974; Brautigan 1967), Brand as well as other poets, journalists and editors in the 1960s to 80s acted as cultural brokers between spheres of practice that otherwise seemed so different (Turner 2006). They created connections between psychedelic experience and human-computer interface design; synchronous dreams and computer visualizations; the physical space of communes and online realms; imagining them all as nodes in a network connected by *information* as the mystical unit that translates everything into everything else.

These acts of brokerage not only played a role in the 1960s – 80s, but were also formative of the Bay Area information society as it emerged in the early 1990s when a combination of developments in the sphere of personal computer hardware, graphic software and cable networks prefigured the internet of today. The excerpt above aptly shows one of the ways in which countercultural gnosticism came to play a role in the way that the internet was imagined. The excerpt comes from a science fiction story written by Vernor Vinge *True Names* [1981]. Together with William Gibson's story *Neuromancer* (1984), *True Names* is widely regarded as giving visual and poetic form to that informational realm that was to become the internet (e.g. Tofts et.al. 2003). It is a story in which the protagonists harvest power through a form of perception that transcends conventional body-centered awareness. While their bodies sit still in their houses, the brains of the protagonist heroes 'Mr. Slippery and Erythrina' are attached with sensors to an informational space referred to as 'The Other Plane'. The quoted section above describes one moment in the Other Plane when

the protagonists seek to put 'the Earth's communication systems' back to life, as this system has been destroyed by evil powers. They are so completely 'at home' in this realm, that they obtain god-like vision – perceiving the world in a Total way, giving them ultimate power to change this world. Different scales of reality collide as they both observe the earth at large 'floating serene', as well as the details of its 'hydrogen aura', its 'thousands of energy levels', and the separate voices of millions of people.

I use this science-fictional fragment to illustrate the indirect, non-straightforward ways in which the worlds of hippies and hackers continued to mingle since the 1990s (see also Pesce 2001). Besides science fiction literature, also raves and Burning Man acted as spaces of brokerage. While not all computer hobbyists feel comfortable in these excessive environments, more and more computer-lovers have come to fulfill key functions in them. In the 1980s and 1990s rave scenes, they acted as DJ's, VJ's and as moderators of event-mailing lists and chat channels. Furthermore, as many of them came to head Silicon Valley startups in these years, they offered their office spaces to function as locations for raves in the evenings and nights.[x] Also, in terms of style and use of metaphor the worlds of hippies and hackers have become increasingly blurry. For instance, editors of the 'cyberpunk' magazine *Mondo 2000* (1989) referred to the psychedelic experience through the metaphor of computer hacking, calling it 'reality hacking' while certain computer programmers referred to their computer explorations online through the metaphor of gnostic spirituality (Levy 2001: 2). Similarly mixing the worlds of computing and spirituality, John Perry Barlow – lyricist of the psychedelic rock band the Grateful Dead - recognized the

internet to be a recent incarnation of the mystical teachings of Teilhard de Chardin:

> Earlier in this century, the French philosopher and anthropologist Teilhard de Chardin wrote that evolution was an ascent toward what he called "The Omega Point", when all consciousness would converge into unity, creating the collective organism of Mind. When I first encountered the Net (…) it took me a while to remember where I'd first encountered the idea of this immense and gathering organism. (John Perry Barlow in *Communications of the ACM*, 1992)

In the early 1990s, Barlow was one of the founders of the Electronic Frontier Foundation (EFF), an organization that currently still seeks to advice policy makers and lawyers on how to organize the internet in technical and legislative terms. The EFF, like science-fiction literature and cultural spaces such as raves and the Burning Man festival, function as significant cultural backdrops to the computer development taking place in Silicon Valley garages and offices. And as such, they have enabled multi-temporal understandings of the 'information society': as both a society that is obsessed with speed and acceleration, as well as one that celebrates gnostic, timeless, universal interconnections between all that exists.

Two Temporal Dimensions of the Bay Area Information Society

Seventeen years after Brand first introduced the Catalog, the volunteers, paid staff-members, participants at Portola, Catalog readers, key contributors and others would found yet another community, online. This occurred at a time when only a few of the urban and 'back to the land' communes had survived the disillusionments of repressive government, internal disputes, drug addiction and the limits of their own powers to be self-sufficient. Eight years before the *World Wide Web* made the internet accessible to a global audience, this *Catalog*-related network of people renewed their communitarian spirit on a Bay–area bulletin-board system (BBS) that came to be known as the *Whole Earth 'Lectronic Link*, or the *WELL*. The *WELL* was one of the first, text-based Virtual Communities (Rheingold 1993; Hafner 2001; Turner 2005, 2006). It became a gathering ground for old-time *Catalog* participants and the many journalists, engineers, programmers and entrepreneurs who came to the San Francisco Bay Area to be part of the 'digital revolution'. Here, they gathered to reflect, discuss, debate and shape the nature of this new rapidly globalizing, rapidly transforming digital space. *Wired Magazine*, for instance, developed in close affiliation with it, as well as the digital rights organization the *Electronic Frontier Foundation* (EFF).

In 2005, I met the founder of *Wired Magazine* and former founding board member of the *WELL*, Kevin Kelly, at a conference that was entitled *Accelerating Change*. The conference invited 'future-oriented technologists, entrepreneurs, industry, institutional and government leaders, academics, scientists, strategists, humanists, and others interested in better understanding and guidance of accelerating planetary change'[xi]. Kelly's attendance at *Accelerating Change* seems to mark the transition that he went through from slow to fast living and from communal organic living to being increasingly caught up in the speedy digital

cycles of Silicon Valley. In the 1970s, Kelly had been a traveling photojournalist and in the 1980s founded a journal that was entirely devoted to walking. After he came to write for the follow-up quarterly of the *Whole Earth Catalog*, the *Whole Earth Review*, Kelly also entered the increasingly digitalizing world of Silicon Valley. As the title of Kelly's book *Out of Control* (1994), suggests, this was also a shift from a cultural sphere that advocated the 'power of the individual to conduct his own education, find his own inspiration, shape his own environment', to a world that is 'Out of Control'.

This 'out of controlness', as discussed at the *Accelerating Change* conference and in Kelly's book, is caused by a combination of the speed with which digital technologies develop and their smallness and complexities. Both factors play a role in the cultural dynamics of Bay Area at large. Particularly since the early 1990s this region has been subjected to many rollercoaster cycles of 'bust' and 'boom', 'bubbles' and 'bursts'. New corporations ('start-ups') form fast and may tumble equally fast, just as new products, innovative concepts and visions may translate into massive hypes for brief periods and just as quickly crumble into forgetfulness. As I saw, in this cultural context, some Bay Area workers suffer from the continuous pressure to keep their skills updated, as well as from 'information overload' and 'choice fatigue'. In the heavily mediated environment of multiple screens with rapidly moving sound bites, ongoing demands are made onto the minds and bodies of the 'knowledge workers' (e.g. Drucker 1999) or the 'creative workers' (e.g. Florida 2002) of this region to negotiate never-ending flows of information.

It seems natural to attribute the accelerating qualities of Bay Area cultural life to the inherent speedy nature of information technologies. This becomes

evident if we imagine the transition from the community that formed around the *Whole Earth Catalog* in the 1960s and 70s to the WELL today. In 1968, as the *Whole Earth Catalog* first appeared, the processes that enabled Catalog readers to imagine themselves as being part of a wider, imagined community occurred rather slowly. To begin with, *Catalog* reviewers had to physically go to libraries or bookstores to find and read the books they were going to review. These reviews would have to be typed out on typewriters, printed on paper, cut and glued by hand, copied again and stapled together. The same went for all the other articles, drawings and letters. Once the *Catalog* was finished, the copies would have to be put in a van and physically driven to communes, some of them being as far from California as Mexico or Colorado. Once arrived in the communes, commune dwellers may have had to wait for others to finish reading the Catalog before their own turn.

By contrast, the *WELL* of 1985 structured communication and the experience of community in much more immediate ways. Books could perhaps be found online, reviews could be typed and sent out directly without intervention of copy machine, glue and geographical distance. The text itself furthermore could be read in parallel instead of readers having to wait their turn.

For the people having lived through such changes in media, they had radical and profound effects – some desirable and others not. While the *Whole Earth Catalog* advocated the 'power of the individual to conduct his own education, find his own inspiration, shape his own environment', the computerized media technologies, shaped in the rapid cycles of corporate Silicon Valley, seemed to obtain a quite demanding logic of their own, leaving this

'individual control' by the wayside. Today, as the internet is 'leaving the desktop and spills out onto the sidewalks, streets and public spaces of the city' (Shepard 2011: 7), the multiplication of screens, windows, communication devices, information streams to respond to and more tasks to attend to has made this information technological world even seem to be more accelerating and out of control.

Yet, this is only one dimension of time as constituted in the current information society. In this paper I have sought to bring the genesis of a second dimension into view, a dimension that has profoundly been influenced by the gnostic spirituality of countercultural hippies. Influenced by this gnostic framework, information technologies have come to be imagined as tools that imbue people with extra sensorial qualities that makes them see otherwise unperceivable connections, and that enables understandings that transcend linear time and physical space. I now end this argument by briefly reviewing the role that is still played by this gnostic framework in contemporary digital development.

Gnostic Awareness and the 'Internet of Things'

Today, an international crowd of architects, social scientists, engineers, programmers, policy makers, activists and entrepreneurs are gravitating around what they regard to be a new technological revolution. Having been prefigured by earlier terms such as 'ubiquitous computing' coined by the *Xerox PARC* researcher Mark Weiser in the early '90s; and evolving through similar concepts

such as ‘responsive’, ‘ambient’ or ‘immersive’ computing, the current field in which these approaches are all converging is dubbed ‘the Internet of Things’ (‘IoT’ from now on). As explained by artist, architect and researcher Mark Shepard (2011), IoT envisions ‘a shift from interacting with a computer, keyboard, mouse, etcetera to the condition where computing is all around us and we constantly interact with a variety of computationally enabled devices and systems which have disappeared into the background of our daily lives’ (2011: 7). Mobile phones, transportation cards, trees, human bodies and consumer products tagged with RFID sensors, wireless connections, GPS software linked to satellite systems and databases are all aspects of this ‘Internet of Things.’ In this IoT world, ‘everything talks to everything else’ as increasing amounts of databases are combining ‘in real time’ and connecting information streams from all kinds of spheres.

The IoT world is a world-in-the-making, and different stakeholders foretell different types of futures when looking at the sensor technologies, database systems and perceived political struggles of today. In most versions of this future, it entails processes of data-aggregation that couple data in ‘real time’ to older databases. In combination with visualization techniques and the functionality of fast forwarding or slowing these visualizations down, IoT ‘users’ may navigate a world of information flows that cut across different scales of time and space, across online and offline spheres and across the bodies of individual people and the larger environment. Through the visualizations that draw from these databases, they may for instance explore environmental change across thousands of years, link this to recent changes in population growth and to the details of their own daily routines. Others may use sensor devices to measure

and control their energy consumption at a distance in 'real-time' and generate overarching awareness of their patterns of energy-use.

Regardless the way it can be used – to micro-manage energy consumption or the create synchronous connections between yourself and the larger environment - IoT is seen as promising by environmental activists; celebrated by large corporations as the 'next great thing'; and political entities such as the European Union are rewarding grants to civil parties exploring its potentialities. Within this productive sphere of IoT exploration, boundaries between interests that seem antagonistic appear surprisingly fluid at times and a wide array of cautionary and celebratory discourses alternate each other quickly. Warnings against the threat posed by the 'all-seeing eye' of this emerging IoT network (e.g. van Kranenburg 2008), for instance, mix with corporate anticipations of new revenue models based on data exchange, and with activist anticipations of future cities that will be more inclusive and that depend on democratic ownership models (e.g. De Lange and De Waal 2012). Permeating this mix of attitudes, moreover, are two different experiences of time: on the one hand, there is the familiar sense that this IoT 'frontier' moves incredibly fast, and is difficult to keep up with. At the same time, the IoT dreams are fueled also with a sense and anticipation of gnostic timelessness.

This gnostic temporality, on which I will focus in this final note, hinges on the anticipation of a humanity that will be perceptually transformed. Furthermore, like the gnosticism of the 1960s, it is embedded in an anti-authoritarian epistemology. I will briefly illustrate this gnostic dimension of today's IoT environment, by referring to two IoT projects-in-the-making: the EU-funded *EveryAware* platform and the *Pachube* network.

EveryAware is a EU project that envisions a near future in which citizens are habitually and automatically collecting all kinds of data through sensor devices as they walk their urban streets. Sensors, hid in clothes or in small wearable devices, will be measuring levels of 'noise', air 'pollution' and radiation, and will be able to tap into communication streams that connect citizens with each other. The AirQualityEgg is a product currently in development by 'ad hoc' networks of artists, engineers and entrepreneurs and has spun out of the 'data broker' company *Pachube*. With this 'egg', Pachube has a goal similar to EveryAware yet a little more modest: it purports to develop a product that is fitted with sensors that measure levels of pollution in the air, streaming these measurements in 'real time' onto the internet, where everyone with access to the internet can monitor them.

One of the discursive backdrops of both projects is skepticism of data generation by official government institutions. In the weblogs, casual conversations and official publications that are appearing while both projects are unfolding, several objections are raised against government data generation and representation. The more nuanced accounts focus on the extent to which organizations such as the Environmental Protection Agency (EPA) in the USA are 'slow' in 'releasing to the general public information regarding such things as air and water quality' because they adhere to professional protocol (Shepard 2011: 7). Others express more paranoid ideas that government bodies don't give the general public accurate information on environmental health in order to protect their own interests; or don't possess tools and styles of measurement that are accurate and detailed enough.

As a host of individuals and institutional bodies are in the process of designing IoT platforms, the promise is that they will engender new archetypical citizens whose perception is unfiltered by official institutions and conventions. These citizens will be empowered by means of their personal, immediate understanding of and direct involvement in the different types of environments they inhabit. As such, the social visions of these IoT developers are reminiscent of the 1960s counterculture. Participants of the EveryAware project, for instance, present a vision of IoT in which they reject the 'current organisation of our economies and societies' as 'seriously damaging [to] biological ecosystems and human living conditions'. Instead, they embrace new, immediate information and communication technologies to engender consciousness change on personal and global levels. As formulated on the EveryAware website: the intention is to 'integrate environmental monitoring, awareness enhancement and behavioral change by creating a new technological platform combining sensing technologies, networking applications and data-processing tools.'[xii]

Alluding to the anticipated merging of all forms of sensorial and non-sensorial perception – to the formation of a kind of total 'environmental awareness'- geographers and architects have referred to such sensor-enhanced architectural landscapes as an *Urban Sensorium* (e.g. Goonewardena 2005). Others have discussed IoT through the metaphor of a 'planetary sensing apparatus' (Bratton and Jeremijenko in Shepard, M. 2011). In such metaphors we can see a similar mixture of attitudes that also fueled the gnostic media enthusiasm of the hippies: the ideal of universal knowledge affected through sensorial change married to an anti-authoritarian rhetoric of individual self-reliance and a concomitant mistrust of official (re)presentations of reality. In

addition to the experience of technological acceleration, such gnostic celebrations - depicting today's information technologies as both perceptive and active, and as engendering forms of awareness that cut across time and space - are central ingredients of today's globalizing information society.

The different temporal frameworks of today's 'information age' creates lines of divergence and convergence across its social spectrum. Perceived in terms of acceleration, this society seems to divide the technologists from those spiritually inclined; the 'digital natives' from those wanting to 'log off'. Yet, as I sought to argue in this paper, current understandings of the ontological and epistemological qualities of information technology are simultaneously affected by a gnostic temporal framework – which strangely and unexpectedly connect the timeless, mystical and naturalistic aspirations of 'slow-livers' and environmental activists to the fast-moving activities of computer programmers and entrepreneurs.

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Notes

[i] Among the initiatives that were supported by Portola were the *Briarpatch Network* and the *Farallones Institute*. The Briarpatch Network was founded in 1974 by Michael Phillips as a network of people who wanted to use business to "learn about the world", to "share business know-how" and be "open about financial records" (http://www.well.com/~mp/briars.html. Retrieved December 16 2008). The Farallones Institute was founded in 1969 by Sim Van der Ryn as a non-profit "Ecological Design Institute". It is "dedicated to research and education that applies ecological principles and practices to the redesign of our environment". It focuses on a "whole systems approach", and works with the principles of "appropriate technology", seeking to

integrate "architecture, human and natural ecology". The institute still exists today (http://www.ecodesign.org/edi-portfolio.html. Retrieved December 16 2008).

[ii] WEC, May 1974: 441

[iii] WEC, May 1974: 440

[iv] Interview Dorien Zandbergen with "Lee", San Francisco, January 2006.

[v] Gareth Branwyn in the Whole Earth Review, quoted in Turner 2006: 81

[vi] The WEC, Spring 1969 Catalog carries titles such as *Cosmic View* (Kees Boeke 1957); *Man's Domain Atlas* (General Drafting Co. 1968), *Apollo 8* (a film by NASA showing space as recorded from the Apollo 8); *Earth Photographs* (NASA 1967); *Exploring Space with a Camera* (NASA 1968); *The World From Above* (Hanna Reich 1966); *Surface Anatomy* (containing pictures of the surface of the human body, Joseph Royce 1965) and *Geology Illustrated* (John S. Shelton 1966).

[vii] Interview Dorien Zandbergen with the Portola volunteers Bob Albrecht (using the internet conversation program *Skype*, January 2006) and Phillis Cole, Scotts Valley, California, November 2005.

[viii] Null, Gary, and Steve Null. *Biofeedback, Fasting & Meditation*. New York: Pyramid Books, 1974, pp. 188. See for a discussion of the problem of defining what is measured by biofeedback technology: Schwartz, Gary E., and Jackson Beatty, (eds.) *Biofeedback. Theory and Research*. New York: Academic Press, 1977, pp. 105.

[ix] Interview Dorien Zandbergen with various computer hobbyists at the Computer History Museum in Mountain View March – May 2005.

[x] Such insights are derived from my own fieldwork, as well as from various other sources such as Davis (1998) and Ruskhoff (1994).

[xi] http://www.accelerating.org. Retrieved September 13 2010.

[xii] http://www.everyaware.eu/the-everyaware-project/

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