<div align="center">

Chapter XIV

The Question Concerning Information Technology Thinking with Hedegger on the Essence of Information Technology

Lucas D. Introna
Lancaster University, UK

</div>

"*The essence of technology is by no means anything technological Technology is a way of revealing.*"

<div align="right">(Heidegger)</div>

INTRODUCTION

The purpose of this chapter is to explore the essence of information technology using the work of Martin Heidegger. In particular I will refer to his well-known 1954 essay "The Question Concerning Technology" (Heidegger, 1977d). It is hoped that the ideas put forward by Heidegger in this work can be extended to include also information technology—which may help us say something about the Internet. Since his essay appeared, machine technology—the emphasis in his essay—has been overtaken by a much more pervasive technology—information technology. The question then becomes: can the notions of technology developed by Heidegger be extended to include information technology? If this can be done what is the implication of this for our understanding of information technology today? In particular how can it help us reflect on the management of the Internet?

One may well ask why this is necessary. Do we not understand information technology? We engage with it every day in so many ways. Surely, we have a very good grasp of its potential and its failings. Yes, this is true. Nevertheless, when speaking about information technology in this manner we tend to speak about information technology in its artifactual sense. We tend to refer to the things we use, whether this be word processors, e-mail or the screen of 'departing flights' in the airport terminal building. Viewing technology as mere artifacts is like viewing a person as a photograph or a mere body. Technology is never mere artifact. Technology 'is' what it is when it functions in the world as 'possibilities for' doing something. If we want to understand technology we must understand the world it makes possible—and also the potential worlds it hides. Heidegger urges us to understand technology as a phenomenon. That means we must understand technology in the way it 'plays itself out' in everyday life. To understand the phenomenon of aircraft technology we must not only study aircrafts. We must also understand air travel and the way in which air travel has transformed our world. The technology of aircrafts 'is' what it is as part of a system of national and international air travel. Only when considering the world of air travel—and the other world it relates to— do we begin to understand the meaning of aircraft technology. Technology as a phenomenon, its meaning, is the way it functions in a world of everyday going on. And it is this meaning that we draw upon when thinking and acting in the world of technology. Thus, the purpose of this chapter is to use the work of Heidegger to help us reveal the meaning of information technology. It is only through the 'opening up' of this meaning that we can begin to make sense of the way in which information technology is changing and transforming our world—its meaning for us. It is only through such an understanding that we can begin to grasp the possibilities and cost of information technology. It seems that this is important in a world in which information technology has become a self-evident necessity with almost automatic legitimacy.

The chapter will be structured as follows: First, I will discuss the Heidegger's essay on technology as the basic frame to be extended; Second, I will discuss information and information technology applying the notions developed in section one, and finally draw some conclusions and implications of such a view—especially for the information society. In the discussion I will often refer to philosophical concepts that may be unfamiliar to the reader. They are included for the sake of completeness and for compatibility with the literature I refer to. In most cases one could follow the argument without having a detailed understanding of these concepts as such. I would encourage the reader to push ahead and take the chapter as a 'whole' before trying to understand the more subtle details and philosophical references. If the reader then whishes to pursue the topic in more depth this chapter will help as a bridge to the philosophical literature it draws upon.

Understanding Technology: From techne to Ge-stell

Heidegger's view of technology is part of his general project of the history of being. For Heidegger being is not a substance, a Platonic idea, or a Leibnizian

monad, but rather a temporal event, an unfolding of be-ing itself—be-ing as a verb. According to Heidegger we understand the world not be looking at its elements from the 'outside' but rather by our active involvement in the unfolding happening of the world. I know a keyboard not by staring at it, but rather by using it to type this text. However, this is not enough. I do not merely type texts as such. I am typing this text because I am writing a chapter in order to publish it. I want to publish the chapter in order to be an academic, and so on. This is the referential whole, the world, of computer keyboards in which it refers to other things and activities and they refer to it. Thus, a keyboard is a 'keyboard' as part of its functioning in the world of typing, writing, publishing, and so forth. In using it in this world of writing I understand the meaning of keyboards—its be-ing in Heidegger's terminology. Things have their be-ing in, and only in, their referential whole—their world. Therefore, for Heidegger the question of technology is not merely another ontic field of human endeavor or enquiry. It is rather at the very center of his ontological project. Heidegger uses the ontic/ontological distinction to indicate the difference between a collection of empirical things (ontic view) and their meaning as phenomenon (ontological view) as described above. As such he argues for a radical ontological questioning into the essence(ing) of technology. In such an ontological enquiry there will not be any recourse to quick and simple definitions. He urges us not impose being-ness (thing-ness) onto be-ing (is-ness), we must allow be-ing to be revealed as it shows itself in the world—in its own terms, in its own happening, as it were.

To understand Heidegger's particular phenomenological view of technology we need to step back and explore some of the things that lead him to this view. As a heuristic starting point we could say that the key to this understanding is the notion of 'revealing'. For Heidegger to understand technology, as a phenomenon, is to understand that the essence of technology is it's revealing of the world to us in particular ways and not in others. The meaning of every technology is the possibilities it reveals to us in the world of everyday going about. For example, once the stone age humans discovered the techniques to extract iron from rocks some rocks were no longer 'just rocks' they became seen as possibilities for making iron tools. Thus, we always look at technology, not as mere objects, but as possibilities for A, B and C. As such technology always and immediately 'reveals' as its essential meaning for us. For Heidegger, this view of technology, as revealing, is intimately tied to the Greek notion of 'truth' as revealing. The connection between technology and truth, in the phenomenon of revealing, can be traced back to their common ancestry in Greek culture. That is therefore where we will have to start our journey.

Revealing the World: Truth as alethia

In his essay "On the Essence of Truth" Heidegger argues that the correspondence theory of truth is dependent on a more originary concept of truth namely that of revealing or revealing as self-revealing (Heidegger, 1977c). The correspondence theory of truth holds that propositions are 'true' if the corresponds to the 'object'

they refer to. Thus, the statement 'it is raining' is true if it is in fact raining. However, Heidegger argues, that this sense of truth—which natural science depend on for their ontic science practice—rely on a more primitive sense of the world in which we already understand what it means to rain—itself irreducible to propositions. For example we may propose that it rains when it is 'wet'. However, 'wetness' or any other attribute of 'raining' we may bring into play in our propositions ultimately refer to a tacit understanding already present before propositions are constructed. It is to this sense of truth that Heidegger wants to point us to as a clue to understand technology as revealing. Heidegger argues that the essence of truth can best be understood in relation to freedom—or a free relation. Not freedom as unlimited or unrestricted choice, but freedom as a relation of mutual revealing, a mutual letting be, a mutual disclosure;

> *Freedom, understood as letting beings be, is the fulfillment and consum-*
> *mation of the essence of truth in the sense of the disclosure of beings.*
> *"Truth" is not a feature of correct propositions which are asserted of an*
> *"object" by a human "subject" and then "are valid" somewhere, in a*
> *sphere we know not; rather, truth is the disclosure of beings through*
> *which an openness essentially unfolds. To let be—that is, to let beings be*
> *as the beings they are—means to engage oneself with the open region and*
> *its openness into which every being comes to stand, bringing that*
> *openness, as it were, along with itself.*
>
> (Heidegger, 1977c, p. 127]

This "letting be", or truth as the disclosure of being, can literally be translated as the Greek word alethia (or unconcealment in English). It is unconcealment as an ongoing event that reveals, that brings into the open that which be-ings 'is' in themselves. Truth is the revealing of the world to us from itself, by itself. It is a primitive and subtle understanding we have of the world because we are always already busy 'in' it—we are never removed from the world. As such the world of our everyday life makes immediate sense and is meaningful for us as those that dwell in it.

Caputo (1988) argues that Heidegger uses the word alethia in two senses. In the first sense, the phenomenal sense, "alethia means the phenomenality of the being, it's self-showing, prior to its reduction to an object of an assertion, or later on, to and object for a thinking subject." Thus, we already know the world, phenomenologi-cally, before we make assertions about it because we already live and have our be-ing in that world. The world already 'showed itself to us'—as embodied, engaged and involved human beings going about in the world of everyday life. The world is not 'hidden' and strange to us. It is mostly familiar. So when somebody claims "it is raining" we already have a rich and lived sense of what that means. In the second sense, alethia (or a-lethia) means the opening up of the realm of the unconcealed itself, the very granting of the presence of the present. Alethia makes truth possible. But to the heart of a-lethia belongs lethia (hiddenness) which is not only conceal-ment but also self-sheltering. In unconcealing, in creating the clearing, a-l ethia conceals itself. Truth is not only that which phenomenally is, but also presupposes

a granting of presence, a clearing that makes phenomenality possible. This means that the particular openness to the world of 'our time' is itself already a particular relation with truth. This openness to the world is made possible by an ongoing historical consciousness in which the world reveals possibilities for being in a particular way. For example the things that we now 'see' as possibilities were not possible for the Greeks—however, we never notice this openness itself. We hardly notice the profound possibility of affecting the behavior of another thousands of miles away—by our e-mail of telephone conversation. Yet in and through telecommunication, possibilities of be-ing have revealed itself that were simply unavailable to those living in the ancient Greek world. At this level of reflection 'revealing' becomes epochal. 'Epoch' is here understood as a specific age or period in which the world was conceived in a particular way (such as the Victorian age or epoch for example). In the manifold epochs of a-ethia a manifold of senses of being and truth emerges. In this regard Heidegger views modern technology as a particular epoch of be-ing as opposed to the techne of the ancient Greek world. Likewise I want to argue, and show, that information technology, especially in its networked form, represents a new epoch of be-ing. Nevertheless, the essence of technology remains revealing. In every epoch this revealing manifests itself differently. In order to understand the essence of modern technology we must first turn to the way technology was understood in the ancient Greek epoch.

Technology as Revealing: Alethia and Techne

For Heidegger the ancient Greek notions of techne and al ethia are closely linked. Techne is also a revealing of the world. It is a making that is also already a revealing. In ancient Greece the word techne was not only reserved for the work of the craftsman. It was also used in relation to the work of the artist and the poet. Thus, for the Greeks techne was poetic—closely linked with the notion of poiesis. Poiesis is the bursting forth of what 'is'. It is the same notion at the root of our modern word 'poetry'. Thus techne was, for the Greeks, the facilitation of poiesis. Very much in the way we understand poetry today as the revealing of the world to us through the words of the poet. To understand this Heidegger refers to the work of the artisan in Greece—and pre-modern—society. The artisan did not make or manufacture 'things' as such. The relationship between the skills of the artisan and the material being transformed was one in which the artisan drew on his tacit understanding of the world—the referential whole—of the 'thing' being made. In the poetic (poiesis) activity of techne the artisan remained open to the possibilities of the material, his skills, and the world of use. These possibilities were felt rather than thought. Through a process of poetic production the artisan allowed the possibilities to emerge rather than to 'impose' it from the outside. Thus, techne in the hands of the skilled artisan becomes a revealing of the world through useful and meaningful things that are revealed in and through the artisan. Useful and meaningful because they already refer to the world and flow from an understanding of the world already present in them. The artisan's tacit openness to the world becomes sedimented into every element of the works being produce.

Obviously, this is a rather romantic, almost nostalgic, picture of the work of the artisan in Greek society. However, we must not allow this to prevent us from grasping the essential point. In a poetic work—such as a work of art—there is a dialectical play between the artist and the subject. The artist must 'wrestle' with it in such a way as not to impose but to allow it to reveal itself (in it own terms as it were). Heidegger (1977d) argues that our modern day view of techne is "making or manufacturing" is a correct but non-essential view of what techne is:

> *Thus what is decisive in techne does not lie at all in making and manipulating nor in the using of means, but rather in the revealing... It is as revealing, and not as manufacturing, that techne is a bringing-forth.* (p. 295)

The work undertaken by the artisan may succeed or it may fail. But even at its best the accomplishing can be only provisional, "because humanity cannot master being, and the pull of self-concealing (lethia) is forever taking place even as being is brought to happen as unconcealing" (Lovitt, 1980). How does this concept of techne as poetic revealing in Greek culture relate to modern technology?

Modern Technology and the Forgetting of Be-ing

What happened to the Greek concept of techne—techne, as the participation in the bringing-forth (poiesis) of being? Heidegger argues that being in its manifold epochs (the history of being) is progressively concealing (withdrawing). Take careful note of the fact that we are now referring to the epochal element of alethia—the revealing that progressively 'hides' itself. This self-concealing is outlined in Heidegger's history of be-ing or "the forgetting of be-ing." I will only be highlighting a few elements of this history of the forgetting of be-ing (what 'is') here. For more detail refer to Farland (1978), Schurmann (1986) and especially Zimmerman (1990).

The forgetting of be-ing starts with Plato who reduces the uniqueness and situatedness of be-ing to form (eidos or idea). The general essence (eidos) shines forth in the particular. No longer can humanity gather-forth in a unique and spontaneous manner. Everything emanates from the eidos—be-ing is form. Techne is no longer a creative participating in the self-revelation of be-ing, it is now conformance to the one absolute and eternal eidos. It is now a correct perceiving, a correct knowing. Plato moves away from alethia as unconcealment to alethia as conformance to eidos. This shift is the starting point of the forgetting of being, the emergence of the correspondence view of truth, the 'correct' (orthotes) seeing.

With the translation of Greek into Latin many essential insights were lost, so Heidegger argues. For the Romans, 'work' becomes that which is affected in working and accomplished in action—thus the emergence of causality. Be-ing is that which makes present. Be-ing is that which causes to "be". In the Christian theology of the Middle age, God is the highest cause. Plato's eidos is now located in God's mind. Truth is now correspondence to the mind of God. Humanity must mirror God's mind in nature then it will discover being. Truth becomes divine.

With Descartes be-ing becomes subjective. Humanity seeks the certainty of existence in itself, its own self-consciousness. What is true is what is knowable, and what is knowable is what humanity can posit before its own consciousness ('observe' with its senses), that which humanity can re-present (vor-stellen). Be-ing is now "that which stands as object over and against humanity, within its conscious-ness as knowing subject" (Lovitt, 1980, p.67). The 'real' being is once again equated with correspondence. This time the correspondence is between the asser-tion and the representation (in the subject). In this epoch being is accurately 'captured' by those assertions (by the subject) that correspond with being (object). Be-ing is that which is objectified in the consciousness of humanity. This 'objec-tification' by re-presentation becomes the foundation of the logical and mathemati-cal description of the world—the advent of modern science. With being as re-presentation the foundation for modern technology is laid. The technological conception of the world comes into full play. Nothing can escape the re-presentation as object by the subject. Be-ing is commanded to appear as 'object' before a 'subject'. The leading-forth becomes a commanding-forth. Be-ing as 'object' is subjected (brought under control) by the 'subject'. It is from this epoch that our modern view of technology flows.

The Essence of Modern Technology as Ge-stell

For Heidegger modern technology is still a mode of al   ethia. Yet, it is a particular way of revealing the world. Its revealing is not poetic, its is rather a commanding-forth that commands, sets-up (stellen) beings as objects of manipula-tion. The urge of Modern society to conquest nature, and its urge to know and to control, places it in a particular relationship with nature. The forces of nature must be harnessed for the benefit of all humankind. Nature, for humanity, becomes a set of means—a set of inputs. It is revealed as a collection of forces to be commanded-forth. Nature is on stand-by for humans to call upon. A resource that can be unlocked, transformed, stored and distributed in chains of activities, all linked into a big network of stores, all on immediate stand-by (standing-reserve) for humanity to command-forth. All beings are mere "means" or chains of means commanded-forth toward a material and artificial end—the glorification of humanity as control-ler—as sole commander and constituter of Being. The irony of this revealing is that humanity, in this commanding-forth, ultimately also becomes a mere input, a resource, on stand-by. As such, humans also become another link in the chain that is commanded-forth as a means (this is clearly demonstrated by the use of the term 'human resources' in contemporary management theory).

When the ancient artisan created a pair of shoes, the artisan gathered the elements together to create a unique work—a unique shining forth of a particular presencing. Every pair of shoes was a poetic work of techne, a unique revelation, a shining-forth of be-ing. The bringing-forth of the work was an end in itself. Not just any end in a vague, undefined sort of way. In the work the artisan became constituted as a 'location' of truth. Through the work its existence becomes authenticated—the

artisan is brought-forth, revealed, as an authentic 'clearing' of be-ing. In modern society the employees in rhythm with the machines mass produce shoes in standardized shapes and sizes. People buy shoes to get to work, to run athletics, to jog in the park. Shoes is a purpose in itself—even if the purpose is to make a fashion statement and nothing more. They have become products or means, manufactured for consumers—themselves being consumed. The factory, the laboratory and the schools have all become manufacturers of products. They are revealed as products—resources/means—standing-by, standing-reserve—to be commanded-forth. This revealing, that is standing-reserve to be commanded-forth, is for Heidegger (1977d, p. 305) the essence of modern technology, it is Ge-stell (the enframing, the setting-up):

> *Enframing means the gathering together of that setting-upon that sets upon man, i.e., challenges him forth to reveal the real, in the mode of ordering, as standing-reserve.*

However, the revealing of Ge-stell is also a concealing. Thus, "above all, enframing conceals that revealing which, in the sense of poiesis, lets what presences come forth into appearance" (Ibid., p. 309). It is not only a concealing of be-ing, but also a concealing of humanities possibility of be-ing. As humanity is that which is itself enframed, enframing is not the 'doing' of humanity. It is an epoch of being. It is part of the unfolding history of being. The essence of technology emanates from the ongoing withdrawal of being. The progressive concealment (l ethia) of being. Thus, "the Ge-stell is the way that presence currently has of filling up the clearing [a-lethia], a way it is granted in, and by the withdrawal of the clearing. Technology is what issues from the invisibility of the clearing; it is not what being is, but the way it pretends to be, one more way of making present, but not the granting of presence itself" (Caputo, 1988, p. 543).

How can we now use these thought to reflect on information technology? Is information technology also a mode of Gestell? Is information technology the next epoch in the history of the concealment of being—a more profound mode of Gestell? This will be the questions that need to be reflected upon in the next section.

Information Technology as Gebild

In order to reflect on information technology I will start by thinking about information. In thinking about 'information' one could try and trace (as Heidegger did for example) the notion of information in early Greek thought and language. This would make a lot of sense since Heidegger believed—as argued by Lovitt (1977, p.xx)— that "the reciprocal relationship between be-ing and man is fulfilled through language. Hence to seek out what language is, through discovering what was spoken in it when it first arose and what has been and can be heard in it thereafter, is in fact to seek out that relationship. It is to endeavor to place oneself where the utterance of being may be heard and expressed." However, one will search in vain in the classical Greek writings for the term (concept or notion) of information. It, or something like it, does not exist. In the absence of a classical Greek notion of information, maybe the etymology of the modern English word of 'information'

will shed some light on a possible interpretation of "what was spoken in it when it first arose". In the next section I will argue that we can indeed make sense of information as a mode of techne. This interpretation will then be contrasted with the interpretation, in the modern epoch, of information as a mode of Gestell—information as Gebild.

Information as Techng

The word 'information' is a noun derived from the verb 'inform'. Inform (in English and in French) has its origin from the Latin verb informare which literally means "to put into shape, to form, to mould" [in=into and formare=form or shape] (Partridge, 1966); (Klein, 1966). The word 'inform' was originally used as a verb to describe the process of instruction (Skeat, 1879). In some old English dictionaries the noun 'information' is not listed, however, the verb 'inform' is listed as denoting the notion 'to instruct' or 'to impart knowledge'.

To informare is not to 'tell' something or to 'give' some facts. To inform is to 'mould'; to patiently shape. The shaping and moulding is not to get 'a' shape or 'a' mould as such—it is not a making. It is merely to create a clearing for being to reveal itself. As such it is a struggle, with the student, —not as an imposing—but as guiding and as participating in the coming into being of insight—truth to be more precise. The teacher does not impart knowledge 'in little packets' for the student to consume. The real teacher "let nothing else be learned than—learning. His conduct, therefore often produces the impression that we really learn nothing from him, if by 'learning' we now automatically understand merely the procurement of useful information. The teacher is ahead of his apprentices in this alone, that he has still far more to learn than they—he has to learn to let them learn" (Heidegger, 1977b, p. 356). The teacher and the student participates in the poiesis, the bringing-forth of being from that which is confusing (lethia). The teacher skillfully and knowingly wrestles with the lethia, the confused reality, to create a clearing, to allow the being to burst forth in unconcealment, in alethia. Now the student's understanding is disposed anew. The teacher (with the student) gathers-forth all the elements, applying the skill of informare in bringing together the teaching elements in a unique and meaningful way. From this gathering together emerges understanding and insight as the work. Hence, to paraphrase Heidegger, what is decisive in inform-ation as techne does not lie in the making and manipulating of facts nor in the using of these facts as means of instrumental knowledge, but rather in the revealing (al ethia). To inform is to reveal, to unconceal, as truth, that which is concealed. This is the essence of inform-mation. However, in the modern epoch inform-ation (informare) becomes informa-tion (Gebild) technology—it becomes a mode of Gestell.

Information Technology as Gebild

Information, in the modern epoch is a mode of revealing that has it being in Gestell as such. Information 'informs' somebody about something or some state of affairs. It 'tells' about some thing, or some one. It is a picture (Bild), a re/

presentation. It points to something and says something about that which it is pointing to. As a pointer, a picture, it can be called up or be called forth. As a picture, it is a fixedness of facts about that which it represents. Once it is fixated it can be called forth as a means for defined ends, such as, decision-making (as sales figures in a management report), or for pleasure (as a film in the cinema). Hence, the development of information technology has its birth in the forgetting of being that constitutes being in that which humanity can re-present (vor-stellen). Information technology is the technology (Gestell) that enframes being as represented and enables humanity to manipulate the representations (programs, models, objects, entities, attributes). It is Descartes—in his constitution of being as represented— and not Babbage or Von Neuman or Boole, which is the real father of information technology. From the outset, in the heart of the enlightenment epoch was the seed that would come to fullness in the information society.

Information is the fixation, the picture, of that which 'is'. The picture represents the 'facts'. As a fixated picture, it can become standing-reserve for consumption. In the age of information [technology], as a picture, that which can be represented can be manipulated—can be controlled—is. Hence Heidegger (1977a, p.34) argues: "The fundamental event of the modern age is the conquest of the world as picture. The word 'picture' [Bild] now means the structured image [Gibild] that is the creature of man's producing which represents and sets before. In such producing, man contends for the position in which he can be that particular being who gives the measure and draws up the guidelines for everything that is" (My emphasis). As such information, as Gebild, is a distinctly modern (and technologi- cal) mode of revealing. It flows from Gestell itself.

Gebild is the setting before, a representing, that objectify whatever 'is', each particular being, in "such a way that man who calculates can be sure, and that means be certain, of that being." (Ibid., p. 127) This certainty in the object—as set up before, as created by the fixated, the information—reciprocally sets up the certain subject. As Heidegger explains: "This is the fundamental equation of all reckoning belonging to the representing that is itself making itself secure. In this fundamental certainty man is sure that, as the repersenter of all representing, and therewith as the realm of all representedness, and hence all certainty and truth, he is made safe and secure, i.e., is" (Ibid., p. 150). In Gebild Descartes' "I think therefore I am" becomes 'I have a representation (information, a pointer, a fixation, a picture), therefore I am'. Herein lies the mystery of the modern explosion of information—the birth of the information society. It is the desperate anxiety of the modern humanity to fixate itself, to be certain of itself as 'is'. The irony, of course, is that instead of becoming a 'location for being' humanity becomes enframed—fixated in Gebild.

The work of Baudrillard is the most elaborate expression of this. The real, for Baudrillard, (1983) is dead; it is not merely dead it never existed. The assumed relationship between the real and the representation was itself an mage?there is no sense in the distinction between: the map and the territory; the copy and the original; the fictional and the factual; the simulation and the real. Baudrillard (1983, p. 2) argues: "Abstraction today is no longer that of the map, the double, the mirror or the

concept. Simulation is no longer that of a territory, a referential being or a substance. It is the generation by models of a real without origin or reality: a hyper real. The territory no longer precedes the map. Nor survives it. Henceforth, it is the map that precedes the territory – PRECESSION OF SIMULACRA – it is the map that engenders the territory...” There are no foundations, no ultimate referent, everything is always already interpretation, always already simulation. Without a foundation that can act as the guiding principle – the judge as it were – of what is real or imitation, true or false, genuine or counterfeit, all distinctions become arbitrary. Baudrillard (1983, p. 5) confirms: “Strictly speaking, nothing remains for us to base anything on. All that remains for us is theoretical violence – speculation to the death, whose only method is the radicalisation of hypotheses.” Distinctions now become the outcome of the microphysics of power, local language games, regimes of truth, intersubjective agreements; and at the end of this spectrum Baudrillard’s total anarchism. All distinctions must be made plastic by self-referentiality. This is the “logic of simulation which has nothing to do with a logic of facts and an order of reasons. Simulation is characterised by a precession of the model, of all models around the merest fact—the models come first, and their orbital circulation constitutes the genuine magnetic field of events” (Baudrillard, 1983, p. 31). All are simulations; the models ‘create’ the facts. Facts have no sense of their own; they circulate the models in an infinite regression.

Baudrillard argues that the real is fabricated by staging its negative. For example, he explains that Disneyland is staged so that we can say Disneyland is ‘make believe’ (imaginary) and the world that surrounds Disneyland (Los Angeles and the rest of America) is real. In a similar manner we stage criminality so that we can fabricate a system of justice that is seen as legitimate. In staging the negative we fabricate (or make sensible) distinctions such as real and imaginary, true and false, right and wrong. As Baudrillard (1983, p. 25) argues: “The Disneyland imaginary is neither true nor false; it is a deterrence machine set up in order to rejuvenate in reverse the fiction of the real” (my emphasis). In the face of the postmodern nihilism the modern society is becoming desperate in its efforts to preserve the real. This is seen in the proliferation of the staging of the negative. The proving of the real by staging the imaginary is now exploding the proving of the truth through scandal; the proving of the law by transgression; proving work by strike, etc.

In the final phase of the image any pretence to the real is lost as the system becomes self-referential and a law onto itself. This is the stage of the hyperreal: “the collapse of reality into hyperrealism, the meticulous reduplication of the real, preferably through another reproductive medium such as advertising or photography [or cyberspace and virtual reality]. Through reproduction from one medium into another the real becomes volatile, it becomes the allegory of death, but it also draws strength from its own destruction, becoming the real for its own sake, a fetishism of the lost object which is no longer the object of representation, but the ecstasy of denigration and its own ritual extermination: the hyperreal” (Baudrillard, 1993, p. 72). In the hyperreal the crisis of representation that has occupied the modern mind for so long is overcome with the real sealed off in an infinite circle of pure repetition.

In the epoch of the hyperreal the real is now "that which it is possible to provide an equivalent reproduction (in other words Gebild). At the end of the process of reproducibility, the real is not only that which can be reproduced, but that which is always already reproduced: the hyperreal." (Baudrillard, 1993, p.73). It is clear from the above brief analysis that there is an infinite regress in the logic of Baudrillard. We stage the imaginary to fabricate (simulate) the real. The simulation becomes a simulation of a simulation that accelerates us into the dimension of the hyperreal. In the hyperreal everything is already simulation; everything is always already reproduction. In hyperreality man is sure that, as the repersenter of all representing, and therewith as the realm of all representedness, and hence all certainty and truth, he is made safe and secure—is. However, that which was secured with representation (the secure subject before which, and for which the setting up was secured), now too becomes set up, commanded forth as a mode of Gestell. The position of humanity as the representor now becomes the represented. The world becomes concealed in Gebild.

If this interpretation of information technology makes sense then what are the implications of this for our post-modern information society. Before considering thes one needs to acknowledge that there are many aspects of this analysis that needs further development. Nevertheless, the above analysis does seem to give us enough hints to reveal the essence of information technology. In the next section, I will attempt to outline some of the implications of this essence.

The Phenomenon of the Information Society

There are many aspects of the phenomenon the information society that we can concentrate on, such as the way in which education has become objectified as the exchange of 'information packets'. Presumed to be meaningful in themselves. However, in this last section I want to focus on that which is particularly trouble-some about the world revealed as 'pictured', as Gebild—namely the way in which information technology reveals our fellow human beings as 'images'. In my discussion, I want to focus especially on the implication of this revealing for the moral dimension that is at the heart of our social being. I want to focus on the concealing of our fellow human being as 'significant others' that seems to be happening in and through the revealing of information technology as Gebild.

In order to help me make this clear I want to turn to the work of Emmanuel Levinas (1961; 1974; 1996). For Levinas ethics is not some 'code of conduct'. Rather ethics happens—or not—when the self-certain ego becomes disturbed (shaken or questioned) by the proximity, before me, of the absolute 'other'—the absolute singular, the face before me 'here and now'. This other, who is always wholly 'other' that takes me by surprise, overturns and overflows my categories, themes and concepts. I can not encounter the 'other' in terms of my categories, ideas or concepts. For Levinas the claim of conventional ethics that we can know, the right thing to do, is to claim that the absolute singular can become absorbed into, domesticated by, the categories of my consciousness. Once the 'other', this singular face before me, has become an instance in my categories or themes it (the face) can

no longer disturb the self-evidentness of those categories. Nothing is more self-evident than my categories, and likewise with the singular now absorbed as an instance of them. As jew, nigger, rich, poor, homeless, rapist, criminal, capitalist, idealist, (and every other category we care to name) the singular disturbing face disappear in the economy of the category. In the category, we can reason about rights, obligations, laws and principles, and yet ethics may never happen—actual faces starve, die, are humiliated, scorned as they circulate in the economy of our categories. They fall through the cracks of our debates, arguments and counter-arguments, and yet we feel justified—we have our reasons; it was the right thing to do after all.

In Gebild a profound distance (not merely a physical distance) is introduced between the 'other' and I. In this distance, it becomes difficult to 'see' the 'otherness' of the other. As such the 'other' becomes categorized and thematised as some thing—as an image. To be consumed as I wish. We even talk of the 'image' we have of the other. In our appropriation of the other as an image we remain unchallenged, undisturbed, confirmed in the self-certainty and the self-evidence of the image. It is my contention that this transformation from poetic revealing to image introduces a substantially increased potential for profound social distance to emerge. The very source of the ethical relation, the face of the 'other', that disturbs, that calls me into question, becomes faded, and could totally disappear, in the age of the image.

To make the discussion a bit more concrete I will reflect on a personal experience of mine. In South Africa we use to live in a house where the front door was very close to the pavement providing easy access to the front door. We often had needy persons knock on the door asking for help. When opening the door one is confronted with a face, 'here and now'. The person pleads for help. After allowing the person to explain their circumstances and maybe after asking some questions one may feel compelled to help because in their speaking, their face disturbed you—calls your self-certainty into question with its raw passivity and nudity. "Maybe I am responsible, have I not also taken the taken the 'place' of this singular face before me?" Allowing them to speak to me—face me—creates the possibility for them to reveal themselves, to disturb the self-evidence of my images of them. Sometimes it happened and sometimes it did not. The face does not have force it merely calls into question. Some time later we bought a new house with a high wall around it. It had an intercom system connecting the front gate with the front door. Now the person must press a call button. The call is answered and the persons must attempt to make their claim through the mediation of the intercom system. Upon reflection, I noticed a change in my response to these solicitations. Somehow, it just became easier to deny assistance. The voice became a potential for Gebild. It became easy to imposed an image on the naked voice and it was so easy to categorize. More importantly, in the distance produced by the mediation my categorisation remained undisturbed, unchallenged. The potential for self-revealing diminished; the ethical relation between the 'other' and me became transformed—not in an explicit and obvious way, but in a subtle yet very fundamental way.

I want to close this chapter by posing the following questions. Do we understand the essence of information technology? If my interpretation of the essence of information technology is correct, even in a limited way, what is the implication for the information society? I seems to me that we need to reflect on these issues with some great care an attention. Maybe the Internet will bring substantial possibilities to all of us but what if we simultaneously erode the most essential dimension of our social being: our moral and ethical openness to each other? Maybe there is a huge overhead cost, yet to be discovered? In my view this is the real challenge in managing the future of the Internet. It is not really an ontic issue, it is rather a fundamentally ontological issue which is at stake here.

REFERENCES

Baudrillard, J. (1983). Simulations (Paul Foss, Paul Patton, Philip Beitchman, Trans.). New York: Semiotext(e).

Baudrillard, J. (1993). Symbolic Exchange and Death (Iain Grant, Trans.). London: Sage Publications.

Caputo, J. D. (1988). Demythologizing Heidegger. *Review of Metaphysics*, 14 March, 519-546.

Erickson, T. (1996). The World-Wide Web as social hypertext *Communications of the ACM*, 39(1), 15-17.

Farland, J. M. (1978). Contemporary Critiques of Technology. *Unpublished PhD Thesis*, University Microfilms International, Ann Arbor, Michigan, Boston.

Heidegger, M. (1977a). The age of the world picture. In Lovitt, W. (Ed.), *The Question Concerning Technology and Other Essays*, 115-154. New York London: Harper and Row: Harper and Row.

Heidegger, M. (1977b). Martin Heidegger: Basic Writings (David Farrell Krell, Trans.). San Francisco: HarperCollins Publishers.

Heidegger, M. (1977c). On the essence of truth. In Krell, D. F. (Ed.), *Martin Heidegger: Basic Writings*, 113-141. San Francisco: HarperCollins Publishers.

Heidegger, M. (1977d). The question concerning technology. In Krell, D. F. (Ed.), *Martin Heidegger: Basic Writings*, 283-317. San Francisco: HarperCollins Publishers.

Klein, E. (1966). *A Comprehensive Etymological Dictionary of the English Language*. Amsterdam: Elsevier Pub.

Levinas, E. (1969(1961)). *Totality and Infinity* (Alphonso Lingis, Trans.). Pittsburgh: Duquesne University Press.

Levinas, E. (1991(1974)). *Otherwise Than Being or Beyond Essence* (Alphonso Lingis, Trans.). Dordrecht: Kluwer Academic Publishers.

Levinas, E. (1996). Ethics as first philosophy. In S. Hand, S. (Ed.), *The Levinas Reader*, 75-87. London: Blackwell.

Lovitt, W. (1973). A gespraech with Heidegger on technology. *Man and World*, Fall, 6, 44-59.

Lovitt, W. (1977). Introduction. In Lovitt, W. (Ed.), *The Question Concerning Technology and Other Essays*, 13-xxxix). New York London: Harper and Row: Harper and Row.

Lovitt, W. (1980). Techne and technology. *Philosophy Today*, Spring, 62-72.

Partridge, E. (1966). *Origins: An Etymological Dictionary of Modern English* (4th ed.). London: Routledge and Kegan Paul: Routledge and Kegan Paul.

Schurmann, R. (1986). *Heidegger on Being and Acting: From Principles to Anarchy*. Bloomington: Indiana University Press.

Skeat, W. W. (1879) *An Etymological Dictionary of the English Language* Oxford: Clarendon Press.

Zimmerman, M. E. (1990). *Heidegger's Confrontation with Modernity: Technology, Politics and Art*. Bloomington: Indiana University Press, c: Indiana University Press, c.