Literature, the Media and Human Subjectivity

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Summary

The objective with this paper is to theorise the significance of the impact of the electronic media on human acts of thinking, reading and writing, to explore possibilities of a new understanding of the human subject, and to demonstrate the implications for scientific practice, teaching and community involvement.

Opsomming

Die oogmerk met hierdie artikel is om die betekenis van die impak van die elektroniese media op menslike denk-, lees- en skryfhandelinge te teoritiseer, die moontlikhede van 'n nuwe begrip van die menslike subjek te ondersoek en die implikasies daarvan vir wetenskapbeoefening, onderrig en gemeenskapsbetrokkenheid aan te dui.

1. Introduction

It is a truism, I think, that literary works are about humans and more specifically about human relations. These works are governed by assumptions and conceptions and prejudices about who humans really are. Implicit in such a statement is a conception of the human being, i.e. an anthropology, or, more specifically, a philosophical anthropology. Theory of literature can make significant contributions by offering studies on the image of the human person as it features in literature. One example is the study by Britton (1987) on the work of Claude Simon by positioning him with respect to realism, representation, and the rethinking of human subjectivity.

   Maffesoli (1996: 12), a sociologist, stated not so long ago: "Human subjects are no longer in control of themselves; neither do they control the universe". This is not a matter of "it used to be the case"; it still is the case. All the rhetoric about skills gives evidence of this, especially all the mastering skills.

   Despite this constant passion for mastery, guided by an ideological assumption that subjects can fully master things and even their world, the questioning of subjectivity is becoming exceptionally important, a kind of leitmotif, at the beginning of the new century. Guattari adds his voice to this: "The future of contemporary subjectivity is not to live indefinitely under the

regime of self-withdrawal, of mass mediatic infantilisation, of ignorance of difference and alterity – both on the human and on the cosmic register" (1995: 133). He comes forward with some very pertinent and searching questions regarding subjectivity: "It is not a natural given anymore than air or water. How do we produce it, capture it, enrich it, and permanently reinvent it in a way that renders it compatible with Universes of mutant value?" (p. 135).

These views on the revision of the subject are not altogether new. They are articulated for some time now, both in philosophic and general theoretical terms. What is new about this urge to revise our understanding of human subjectivity is the impact and influence from the side of the electronic media to do so – we are not left with any choices. We are forced by these developments and the creation of new spaces, not only to rethink space in which humans find themselves but to undergo it, to experience it, to be shaped by it. The transformation of the liberal subject, regarded as the model of the human being since the Enlightenment, into the posthuman or the cyborg, is what is in the process of happening currently. This transformation is more a matter of what is happening to humans in their efforts towards self-understanding than what they let or make happen – pragmatogonic processes are on the go as Michel Serres (1987), for example, articulates it .

The relationship between subjects and objects are important in this regard. Do subjects control, master and manipulate objects or are subjects created and constituted by objects? What determines the formation of subjectivity?

2 Cyberspace: A Newly Invented Space

We encounter indeed a space in which "the presence of the technical dominates everything else", a space in which "it transforms the horizon of every possibility to come, of every possible future" (Stiegler 1994: 11), in other words it is a space developed by the information and communication tech-nologies which are so prominent today. The term proposed as a description for these vast, comprehensive and penetrating changes and developments is cyberspace. The major question is whether cyberspace is a suitable, appropriate and adequate term to use in this regard. In the words of Benedikt it is a word "that gives a name to a new stage, a new and irresistible development in the elaboration of human culture and business under the sign of technology" (1992: 1). The ancient space which was physical and territorial, objective and real, visible and touchable is transcended now. Human beings in many respects become free from their bounds and limits. The new space is invaded with knowledge: from territory to product to knowledge. Lévy (1997) uses four spaces to articulate these developments: the earth, territory, the space of the market, knowledge space.

"Cyber" comes from the Greek word *kubernesis* which means "steering, government" and the verb *kubernaw* which means "to steer, or "to govern",

but also "to guide". The term "steer", however, is slightly ambiguous. In English the word can mean "to steer or control a car", but also "to guide" or "to direct". The German word "steuer" can mean both "steering" (of a car) and "sending" (of messages). The same is true of Dutch, Flemish and Afrikaans where the word "stuur" refers to both these meanings. The same term in this case carries at least two meanings: to steer and to control in a mechanical sense but also "to cause or to direct to go" messages which need not be mechanical. It would in other words be wrong to interpret cyberspace solely in terms of mechanical actions of control. It is a much more dynamic term in the sense of the circulation of messages and messengers, strongly supported and even reinforced by electronic media – the creation of virtual space.

The composite definition given by Novak and his own extension of the definition requires attention and gives us a starting point:

> Cyberspace is a completely spatialized visualization of all information in global information processing systems, along pathways provided by present and future communications networks, enabling full copresence and interaction of multiple users, allowing input and output from and to the full human sensorium, permitting simulations of real and virtual realities, remote data collection and control through telepresence, and total integration and intercommunication with a full range of intelligent products and environments in real space.
>
> (Novak 1992: 225)

For a description of this space Benedikt (1991, 1992), Lévy (1997), and Serres (1994) are of particular relevance, without forgetting the earlier reflections of Deleuze and Guattari (1980) as well as the more recent publication by Deleuze (1988a) on Leibniz which have specific relevance for the theme of this essay. We will return to this theme soon.

After a particularly imaginative orientation regarding cyberspace in his introduction, Benedikt gives us the following question which expresses the core of what should be considered when we reflect on cyberspace:

> if information is the very "stuff" of space and time, what does it mean to manufacture information, and what does it mean to transfer it at ever higher rates between spatio-temporally distinct points, and thus dissolve their very distinctness? With mature cyberspaces and virtual reality technology, this kind of warpage, tunnelling, and lesioning the fabric of reality will become a perceptual, phenomenal fact at hundreds of thousands of locations, even as it falls short of complete, quantum level, physical achievement. Today intellectual, tomorrow practical, one can only guess at implications.
>
> (Benedikt 1992: 23)

When space is understood as the field of play of all information, the intertwining threads which, with full involvement, relate history of art, mythology, changing media, architecture, logic, the sciences, literatures, and so on, force

every discipline and each intellectual endeavour into an interest in the enterprise of creating a cyberspace with the consequence of rethinking human subjectivity as well.

Benedikt's (1992: 119-224) proposals regarding cyberspace are highly significant and deserve careful attention. A steadily larger portion of human activity has become increasingly involved with, and transformed by, the production and consumption of information. As a result, the economic principles of material production and distribution in their classically under-stood forms – principles of property, wealth, markets, capital, and labour – are no longer sufficient to describe or guide the dynamics of our modern, complex, information society. This is the reason why the meditation on cyberspace becomes a necessity. As project and concept cyberspace has the capacity to collect all the different issues at stake into one. In this reality seen or heard objects are made up of or regenerated into pure information.

> This information derives in part from the operations of the natural, physical world, but for the most part it derives from the immense traffic of information that constitutes human enterprise in science, art, business, and culture.
>
> (Benedikt 1992: 123)

2.1 Rules and Principles of Cyberspace

In an effort to identify critical junctures in the system of correlations between the behaviours of physical space and cyberspace Benedikt (1992: 132) considers the possible rules and principles of cyberspace. He discusses them in relation to the rules and principles of natural, physical space, and under five topological rubrics: dimensionality, continuity, curvature, density and limits. From this will emerge, according to him, seven principles: exclusion, maximal exclusion, indifference, scale, transit, personal visibility, commonality. These considerations take him to the fundamental notion of field – information field (p. 163): a space where every point contains, is, or has a value of energy, force, or information. Cyberspace is an information field, and the boundary between cyberspace and real space can be designed so that the fields can extend maximally from one into the other, geometry intact. The intermingling of the geometry and content of two information fields, one electronically sustained and one materially and energetically, is the goal, stated most abstractly, of all virtual reality technologies. Stated more practically, the more advanced notion is to allow the information field of cyberspace as such to extend into – and to overlay – the information field existing in the user's real world as through a window, or as surrounding him entirely (Benedikt 1992: 167-168).

The notion of cyberspace, as described so far, has very definite implications for the understanding and articulation of central notions like knowledge, discourse, thinking and life, especially in terms of their spatial connections.

These notions are equally important in deepening our understanding of cyber-space and will be discussed under the rubrics of discursive space, multiple thought spaces and life space. What is indeed happening without many people realising it is the fact that the changes in conception of knowledge during the past three or so decades on the one hand, and the change in the handling and manipulation of knowledge on the other hand are in compliance with one another. While the term "hypertext" was developed in the sixties by Theodor Nelson in the USA, the term "intertext" was developed by Julia Kristeva in France, also in the sixties. The definition of both shows that their dynamics and objectives are the same. Both reflect ways of dealing with texts or documents, as well as domains and fields of study, and how they are related; both assume a certain new and different understanding of the character and nature of knowledge and both introduce radically new dimensions of reading. Landow (1992) offers a particularly appropriate demonstration of these very significant developments which cannot be ignored by students of literature and comparative literature.

2.2 Discursive Space

At any point in history, institutions attempt to legitimate the current version of knowledge and truth by controlling the manner in which texts are ordered with respect to each other. A scientific knowledge claim relies "on institutional support: it is both reinforced and renewed by whole strata of practices, such as pedagogy, of course; and the system of books, publishing [and] libraries" (Foucault 1970: 55). The library, as an institution for arranging texts, becomes a component in the legitimation of a particular order of discourse. As such the library itself becomes a discursive space. It enforces the "ensemble of rules according to which the true and the false are separated" (Foucault 1980: 132). In this space an unlimited number of discourses circulate, integrate, and conflict: the domain of multiple discourses. What ensues is an extremely complicated space (Foucault 1977b: 95). This complicated space could justifiably be referred to as a discursive space. Discursive space can at the same time be both very concrete and highly abstract. Foucault's concept of discourse is framed by assumptions that are commensurate with the kinds of formations found in the domain of information. The bodies of texts that are referred to as sciences organise and shape our practices in an important way. He explores the connections between scientific disciplines and institutional activities and re-organisations. Only when it is realised that a discourse is a language formation does it become possible to discern the effect of scientific discourse on information practice. Otherwise, the impact and effect of discourse will be lost. It is against this background that the following statement regarding the individual subject should be understood:

it is not that the beautiful totality of the individual is amputated, repressed, altered by our social order, it is rather that the individual is carefully fabricated in it, according to a whole technique of forces and bodies.

(Foucault 1977a: 217)

In Foucault's conception of scientific knowledge, the library institutionalises the arrangement of texts that provides the appropriate spaces in which new knowledge claims can be located and given meaning. Truth is discovered not only in the information centre or library through the location of a particular text, but it is also made possible by the arrangements of texts and documents and in the "spaces" that these arrangements make possible. To comprehend the nature of a discipline, it is not enough simply to collate the finite number of facts that members of the discipline claim to have discovered; rather, one must immerse oneself in the discourses of the discipline to grasp the patterns and arrangements of their knowledge claims, their systems of constraints and legitimation, and to locate one's discourse within it (Radford 1992: 418-419). The arrangement of texts or documents becomes the basis for the possibility of new texts and, hence, new knowledge – inventiveness!

The formulation of specific scientific hypotheses is always grounded in discussions of the same or similar problems, with respect to particular theories, particular methods, particular disciplines, and particular philosophies of the nature of the world. Following Umberto Eco the library, for example, can be conceptualised as a labyrinth of texts that contains the possibilities for new arrangements. Eco explains that the library is a net where

every point can be connected with every other point, and, where the connections are not yet designed, they are, however, conceivable and designable. A net is an unlimited territory.

(Eco 1984: 81)

The individual text gains its value with respect to its place in the network, or in a multitude of networks, and not as the vessel containing some discrete fragment of knowledge put there by its author. Similarly, Foucault argues that

the frontiers of a book are never clear-cut: beyond the title, the first lines, and the last full stop, beyond its internal configuration and its autonomous form, it is caught up in a system of references to other books, other texts, other sentences: it is a node within a network.

(Foucault 1972: 23)

The library, as well as the information centre (both of them institutional representations of cyberspace as a space of information and knowledge), understood along these lines, makes the creation of new knowledge possible at its most fundamental level. One stands awed in the labyrinth of cyberspace because of the knowledge that can be discovered through its potential for new

connections. One stands hushed in the presence of that which this space makes possible, as well as that which it contains. Foucault (1977b) makes this point through the image of "fantasy". The unstructured nature of the fantasy makes it an image that stands in opposition to the rigorous systems of organisation traditionally imposed by the library. But within the limits of this arrangement, Foucault (1977b: 91) posits the presence of an infinite number of spaces "in the interval between books". In such spaces resides the possibility of "impossible worlds", worlds to be invented, worlds other than the objective world constituted in the discursive arrangements of science:

> fantasies are carefully deployed in the hushed library, with its columns of books, with its titles aligned on shelves to form a tight enclosure, but within confines that also liberate impossible worlds .... The imaginary is not formed in opposition to reality as its denial or compensation; it grows among signs, from book to book, in the interstice of repetitions and commentaries; it is born and takes shape in the interval between books. It is a phenomenon of the library.
>
> (Foucault 1977b: 90-91)

It would hardly be inappropriate to state that what we encounter here is the phenomenon of cyberspace.

2.3 Multiple Thought Spaces

Cyberspace, discussed here in terms of Foucault as *discursive space*, can almost be qualified, using an image from the graphic arts, as Escher-like *thought-space*. The constructive contributions to this effect by Deleuze and Guattari can never be denied. It is indeed possible to speak, with reference to them, of the project of thinking the conditions that make experience possible and things intelligible. This might make possible nonhierarchical discourses, discourses in which we might think, on one and the same level, about everything. Deleuze and Guattari (1980) have fulfilled this ambition with their fascinating book *Mille plateaux*, a book without a central reference point, a book which talks of many things – short stories, the face, birdsong, the State, and many more. Involvement with cyberspace easily makes people forget that these issues are in the last analysis the issues that count.

   The terms multiple and multiplicity come to the fore in complete agreement with what we are talking about – multiple terms, beings, knowledges, discourses, things. This space is the space of multiplicity, of thousand plateaus. This cybernetic vision of the world finds support from many sides, specifically from the computer which "structures human experience". To this view Lévy adds the question: "What would human thinking be like which has never been transformed by its objects?" (1993: 14). The idea has been with us for a long time without it being fully and properly articulated. The

definition of the library given by Borges gives expression to this unarticulated experience:

> the Library is unending. The idealists argue that the hexagonal rooms are a necessary form of absolute space or, at least, of our intuition of space .... *The library is a sphere* whose exact center is any of its hexagons and whose circumference is inaccessible.
>
> <div align="right">(Borges 1964: 52; my italics)</div>

Electronic media makes this same issue not only much more dramatic and comprehensive, but also very colourful. It is characterised not by straight lines but by fractals (Hundertwasser, Mandelbrot); not by sanity, normality, order and truth but by a constructive interrelatedness between madness and sanity (Tschumi); the normal and the pathological (Canguilhem); order and chaos (Prigogine, Serres); error and truth (Foucault). Jaffelin (1993) manages in an excellent way to incorporate these views in a "theory of general information", as *a tractatus logico-ecologicus.*

Asked what genre *Mille plateaux* belongs to, Deleuze replies:

> Philosophy, nothing but philosophy in the traditional sense of the word .... The philosopher ... is someone who creates in the order of concepts, someone who invents new concepts ... thousand plateaus, rhizome, nomad, abstract machine, etcetera.
>
> <div align="right">(Deleuze 1988b: 99-100)</div>

In another interview he brings us closer to the point we wish to emphasise here:

> I conceive philosophy as a *logic of multiplicities*. I feel myself close to Michel Serres in this regard. The creation of concepts means the construction of a region of the plan, to add one region to the preceding ones, to explore a new region, to fill the gap and to provide what is lacking. The concept is a composition, a consolidation of lines and curves.
>
> <div align="right">(Deleuze 1988b: 22)</div>

The notion of connections refers to the line which passes between things. The line is not a geometric line, but "the most living and creative of lines. Real abstraction is a non-organic life. The idea of non-organic life is constant in *Mille Plateaux* since it is the life of the concept" (Deleuze & Guattari 1980: 100). In this way cyberspace becomes a *life space* as well. As life space the impact of cyberspace on human subjectivity should not only be obvious but will indeed have redefining functions.

The logic of multiplicities, the connections between regions, and the invention of concepts not only introduce cyberspace to us as a multiple thought-space, but suggest to scientists a scenario for the development of adequate theory in their respective disciplinary domains. Kochen's dream of

the role of computers (1974: 64-89) in this regard finds extensive material expression in exciting developments in the field of hypertext. As an example of these more recent developments reference can be made to Landow who writes:

> Hypertext, or electronically linked text, enables students to do all these things. Unlike books, which contain physically isolated texts, hypertext emphasizes connections and relations, and in doing so changes the way texts exist and the way we read them. It also changes the roles of author and reader, teacher and student.
>
> (Landow 1990: 134)

The opening up of cyberspace as the wealthy space of multiple meanings, combined with this ability of hypertext to change the way we understand and experience the space inhabited by human subjects and their knowledges and literatures offer exciting promises to the theorists in these fields..

What do we find in this space? *The Angels* of Michel Serres (1993); messengers, wingfooted like Hermes or not, carriers of messages; the messages of electronics as described by Lévy (1997). Its virtual nature remains important for instance for Michael Heim (1993). The deepest dimension of this space is knowledge and for an appropriate development of knowledge we need the insertion of human subjects.

These developments challenge us to contemplate the arising shape of a new world or reality, a world and reality that must, in a multitude of ways, begin, at least, as both an extension and a transcription of the world and the real as we know it and have built it thus far. Hereby is posed the major architectural project for the twenty-first century of which Lévy (1997: 117-128) writes. The task will be to imagine, construct, convert and equip this space as a multiple, interactive, physical, virtual, lived, consultative space of knowledge. Tschumi (1987, 1990) and Ulmer (1989, 1990) offer immensely important views in this regard. Space does not allow a discussion of these insights. Meaning, beauty and shelter, exactly the habitat which space offers, require from architecture to co-opt, modify and codify this space.

> What is architecture after all if not the creation of durable physical worlds that can orientate generations of men, women and children, that can locate them in their own history, protect them always from prying eyes, rain, wind, hail, and projectiles ... durable worlds, and in them, permanent monuments to everything that should last or be remembered.
>
> (Benedikt 1992: 14)

Architecture is the expression of our sense of what we mean by "reality". The form-giving of information is at issue here. Buildings, and the designs of buildings, are carriers of knowledge. The highly inventive and original recent

study by Samuel Weber (1995) on art and technics offers useful reading material in this regard as well.

This space is created by humans but create them at the same time. They become nomads, collectively intelligent, aesthetically involved in as many as possible facets of this space. Being in an unavoidable way observers and experiencers of these dramatic developments in our spatial development we have to admit that the impact on being human as well as on the understanding of humans is comprehensive. Our knowing, thinking, acting, loving and living habits have already been changed and will be changed as time goes on.

3. The Impact of Cyberspace on Humans, or, the Anthropology of Cyberspace

3.1 Pragmatogony

Michel Serres's emphasis on what he calls pragmatogony, or the anthropology of science, clearly indicates the fundamental importance not of subjects, but of things and their defining effects on subjects. Humans are hereby situated differently regarding things. Latour (1994) has developed this even further. The revolution that is brought about by these views and the implicit change of emphasis converge towards a new milieu of communication, of thinking and of work for human societies.

What does Serres have in mind? Science always deals with objects or an object. Serres wants to do the following: to describe the emergence of the object, of the thing in general, of the thing as it is ontologically. He asks: How does the object come to what is human? This question concerns the primitive experience through which the object within itself constitutes the human subject. This statement provides the key to the anthropology of science and equips us to understand the meaning of the term pragmatogony. The book by Serres (1987) on this theme is a book about the simultaneous production of object and subject (science and its social context) – this is pragmatogony. The problem is the existence of hundreds of myths telling us that the subject builds the object. We are never told about the way the object creates the subject. This second part of the story is not to be found in texts but in the silent and rugged remains of stones and statues. He loads epistemology with the unknown actor, the thing. This reversal of the traditional subject-object relationship in the anthropology of science provides us with the key to the anthropology of cyberspace as well, in other words the key to the impact of cyberspace on human beings and our understanding of human beings. It is in relation to these views that Lévy (1993: 155-172) develops his perspective in a chapter on "beyond subject and object" where he states explicitly: "The thinking subject is fragmented at its basis" (p.155) and "there is no longer a subject or a thinking substance, neither in the material nor in the spiritual

sense", but it is rather a matter of "[it] thinks in a network" (p.156) which certainly reminds one of Jacques Lacan.

The drama of technical "things" is reshaping human existence and redefining human beings; it transforms the horizon of all possibility to come and of all possibilty of a future. Lévy (1997) and Stiegler (1994) discuss the theme of the anthropology of this space from different perspectives in a comprehensive and searching way. They develop a conception of the human being that does not only comply with the characteristics of cyberspace but is also formed and shaped by this space. The impact of this space on humans is at issue. Similar to the impact ordinary things have on humans, electronic media "as things" have an immense impact. Lévy (1992: 212) states clearly that the "automatic calculator" belongs undoubtedly to the realm of things. Stiegler (1994: 147), while relating technique to grammatology (Derrida 1976), emphasises grammatology as the thinking of the name of the human being by thinking it through thinking graphics (writing, *la graphie*) in terms of the emergence of systems of writing, a cybernetic theme par excellence. He continues by stating:

> The history of the "gramme", is also the history of electronic files and of reading machines: a history of technique – the invention of the human being (which is technique), both as object and *as* subject. Technique inventing humans, humans inventing technique. Inventive as well as invented technique. This hypothesis ruins traditional thinking about technique from Plato to Heidegger.
>
> (Stiegler 1994: 148)

Technique is either considered as mere tool, or as dangerous threat. This suggested impact of technique on humans brings Serres's concept of pragmatogony immediately into the centre of our picture.

The "gramme" which is at issue here structures all niveaus of the living and beyond, of the pursuit of life by other means than life, from "the genetic inscription to the passage beyond alphabetic writing to the orders of logos and of *homo sapiens*" (Stiegler 1994: 148). This passage from the genetic to the nongenetic is the appearance of a new type of "gramme" and/or "programme". If there can no longer be question of founding the *anthropos* in terms of a pure origin out of itself it remains to be said where the type *anthropos* comes from. This signifies the necessity of creating a typology of "grammes" and "programmes" as suggested by Ricoeur (1983: 93): cultural codes, just as genetic codes, are "programmes" of behaviour; they give form, order, and direction to life. Cultural codes, like customs and morals, and so on, take their clue from, they are derived from, genetic codes. In both cases the key notion is information as inscription, as writing, as "gramme", certainly no longer as building blocks or units out of which knowledge can be constructed (the traditional and widely accepted notion), but much rather understood as knowledge properly digested, structured and organised. The core question is to think the highly paradoxical possibility of such a passage,

such a derivation: this poses the unthinkable question of an absolute past (passé), an inconceivable future, which can only be an infinite abyss.

Crucial in this regard is that we are in this space of "grammes" and "pro-grammes" exposed to new and altogether different dimensions of knowledge, thinking, human subjectivity, and social relations as most probably in no other time in human history. This exposure brings about dramatic shifts in human self-understanding and human self-realisation as well as human creativity. The logos of the anthropos is no longer to be understood in the sense of cultural or social or ethnic anthropology but in the sense of anthropos as the being who is not only exposed to this new milieu but who is born into it, as it were, and who can, as such, no longer be considered as unity, consistency and integrity.

What should be considered as the most unique characteristic of cyberspace and its inhabitants as characterised above? When cyberspace is understood as a space of multiplicity, relations, networks, discursivity, virtuality, computing and new knowledge – as a virtual universe of knowledges, as "grammes" and "programmes" – then cyberspace is pre-eminently a space of *informatisation.*

3.2 Informatisation

By the process of informatisation events, decisions, actions and persons are situated on the dynamic maps of a shared context and they will continuously transform the virtual universe in the bosom of which they take on meaning. As it has been stated by Lévy, "general informatisation is the effect, the sign and the latest of the operators of an anthropological mutation of great fulness" (1992: 213). In its etymological sense informatisation is an activity of the giving of form (form-giving) and the bringing of light (light-ing). As such it is close to the German *Bildung,* building, formation; this means that it can be positively related to e-duc-ation (from the Latin *ducere*: to lead, which can mean to lead into form or light (cf Michel Serres on the philosophy of *ducere*: in-duc-tion, de-duc-tion, intro-duc-tion, pro-duc-tion).

The implications are vast and comprehensive. As Novak (1992: 225-226) puts it, it is no longer a matter of dealing with information in a linear logical way where information is something we can control at will but it is a matter of us being "within information". This space, cyberspace as information space, with an educational dynamics to it absorbs us, as well as our attention and imagination. By merely being in this space gives form to our existence and enlighten our vision, i.e. provides us with meaning and wisdom and a new being.

When cyberspace is understood as a space of informatisation we should not forget that the term informatisation is closely linked initially to computers where calculation and computing are the predominant characteristics and eventually to electronic media as such where sound, colour and design

become overwhelmingly present as well. Hereby cyberspace is constituted as a space of education of a very special, formidable and unique nature.

Given the interesting more or less simultaneous developments of actor-network theory in the social sciences, the networking activities in information technique of the information and communication sciences (Authier & Lévy 1996; Parrochia 2001), the intertextual developments in the creative humanities, it will be impossible to proceed in any intelligent way in the world of the intellect without a theory of cyberspace. These descriptions promote to the maximum the diversity of human qualities and transform them in a very fundamental way, a development highly significant for the study of literature amongst other domains.

This new spatial concept and its dynamics have an unavoidable impact on our image of the human person and of course on human self-understanding (Lévy 1993: 185-198). The mythical dimensions of the propagation of this new space as developed in current discourses across disciplines and institutions *reflect both the human condition and create it.* This forms the guideline for the notion of an anthropology. It is simply no longer possible to look at humans as we are used to, especially not after the exposure of humans to the above-mentioned issues. Human beings have changed and are in the process of changing even more. They are not only newly related to texts, knowledges, and information, but especially to one another in the sense of a different kind of collectivity, namely collective intelligence.

3.3 Collective Intelligence

One crucial issue regarding cyberspace is that participating in this space or the mere fact of finding oneself there has intellectual implications. Information and knowledge have to do with intellectual activity and intellectual exercise. Moreover, as such it derives momentum thanks to dramatic technical developments in terms of electronic media. For this reason the one important thing is the issue of intelligence. Previously intelligence was viewed as a matter for individuals and its measurement could allocate a place to individuals in a social setting. With all the described developments a new concept of intelligence emerged, namely *collective intelligence* well and significantly articulated by Lévy (1997). This form of intelligence can be related to cyberspace in a very specific way. This is the space in which collective intelligence will flourish. The ancient space is made both uniquely visible and the object of interactive sharing of insights and power – democracy (cf Benedikt 1992: 3).

As a matter of fact cyberspace becomes the space of relations, connections and eventually collectivities. In this perspective cyberspace will become the moving space of interactions between knowledges and knowers. Hence the inference that cyberspace as space of informatisation becomes in the last and

deepest instance a space of *collective intelligence* and as such the space of education. Hereby a specific anthropological mutation is stated – no longer can the anthropos be understood as an individual, and as a monocultural thinking, knowing and acting being, but the anthropos must be understood as a collectively knowing, thinking, socialising and acting being. "Fractal subjectivity" is the term used by Lévy (1993: 196) to characterise this "new" subject. In other contexts by other thinkers we find terms like cyborg and posthuman fulfilling this same function. A new conception of the human being emerges which enlarges and deepens the "know yourself" of Socrates into "let us learn to know ourselves in such a way that we will be thinking together" and which generalises the "I think therefore I am" of Descartes into "we form a collective intelligence, therefore we exist as eminent community" (Lévy 1997: 33). The intelligence of the totality does no longer result mechanically from blind and automatic acts, either in a biological or in a cultural sense, for it is the thinking of persons which becomes perennial that invents and puts into movement the thinking of society and in society. This movability within cyberspace reminds one of a kind of nomadic existence (cf Ellul 1990).

3.4 Nomadic Existence

When cyberspace is understood as the space of collective intelligence, a further anthropological implication emerges. In order to benefit from the events in this space, to become at home here, a special disposition is required from humans. As a matter of fact they are confronted by the inevitability of this disposition – humans have to adopt a new form of *nomadic existence* (cf Deleuze & Guattari 1980; Lévy 1997 for extensive discussions of this notion).

These views are certainly strange for many, perhaps most of us. Over two decades ago Weizenbaum (1984), in order to protect humans against computer threats, passionately argued that judgement is a uniquely human function and must not be turned over to computers. With the rapid development of neural nets and expert programs, it is no longer so clear that sophisticated judgements cannot be made by machines and in some instances be made more accurately than by humans. But the issue involves more. It is an ethical imperative that humans keep control. To do otherwise would be to abdicate their responsibilities as autonomous independent beings. Weizenbaum's argument makes clear the connection between the assumptions undergirding the liberal humanist subject and the ethical position that humans, not machines, be in control. Such an argument assumes a vision of the human in which conscious agency is the essence of human identity. Sacrifice this and we humans are hopelessly compromised, contaminated with mechanic alienness in the very heart of our humanity. Hence the urgency to insist that judgement is a uniquely human function. At stake is the question:

What does it mean to be human? Or even more pertinently put: Who comes after the subject? (Cadava 1991).

When the human subject is viewed in terms of the notion of fractal subjectivity (Lévy 1993), or cyborg (Haraway 1990; Gray 1995), or the posthuman (Hassan 1977; Hayles 1999), by contrast, conscious agency has never been in control. In fact the very illusion of control bespeaks a fundamental ignorance about the nature of the emergent processes through which consciousness, the organism, and the environment are constituted. It is no longer only language that speaks in us as Heidegger maintains; but it is the world that speaks in us; the environment speaks in us; things speak in us (cf Foucault 1970). Mastery through the exercise of autonomous will is merely the story consciousness tells itself to explain results that actually come about through chaotic dynamics and emergent structures. If it is argued that there is a relation among the desire for mastery, an objectivist account of science, and the imperialist project of subduing nature, then the posthuman offers resources for the construction of another kind of account.

In this account emergence replaces teleology; reflexive epistemology replaces objectivism; distributed cognition replaces autonomous will; embodiment replaces a body seen as a support system for the mind; and a dynamic partnership between humans and intelligent machines replaces the liberal humanist's subject's manifest destiny to dominate and control nature. The chaotic unpredictable nature of complex dynamics implies that subjectivity is emergent rather than given; distributed rather than located solely in consciousness; emerging from and integrated into a chaotic world rather than occupying a position of mastery and control removed from this chaotic world. The importance of putting embodiment back into the picture is highly necessary (cf Ihde 2002; Nancy 2000; Stiegler in Parrochia 2001) since embodiment makes clear that thought is a much broader cognitive function depending for its specificities on the embodied form enacting it.

The posthuman does not really mean the end of humanity. It signals instead the end of a certain conception of humanity, a conception that may have applied to that fraction of humanity that had the wealth, power, and leisure to conceptualise themselves as autonomous beings exercising their will through individual agency and choice .What is lethal is not the posthuman as such but the grafting of the posthuman onto a liberal humanist view of the self. The posthuman need not be recuperated back into liberal humanism, nor need it be construed as antihuman.

In her immensely scholarly work on the theme of the posthuman Hayles states the following:

> The answers about posthumans won't be found in books or at least not only in books. Rather the answers will be the mutual creation of a planet full of humans struggling to bring into existence a future in which we can continue to survive, continue to find meaning for ourselves and our children, and continue to ponder

our kinship with and difference from the intelligent machines with which our destinies are increasingly entwined.

(Hayles 1999: 282)

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