

CONSTRUCTING INFORMATION SOCIETY:  
DISCOURSE, POWER, SYSTEM AND INDIVIDUAL

З.Серик\*

\* Японы Кобегийн их сургуулийн докторант, социологич

**Key words:** Information society, progress, globalization, system, standardization, cybernetics, communication, ICT, virtual reality

**Introduction**

There are many who get excited nowadays when they hear words such as "information society", "information age", "information revolution", "information highway", "virtual reality", "cyberspace" or "globalization", believing that we are now entering a "new age" that will change or, already changing our lives. It is interesting why we are so optimistic about such changes or, even in general, about such grand words as "revolution". It seems there is a certain romantic idea running behind such words like "revolution" that changes brought by such event will better our lives or bring a bright future.

What strikes me most in such "information age" or "globalization" debates is how those information/information and communication technologies are bringing change? By the change I mean a "real" change by which I can distinguish my previous experience from my contemporary experiences labeling it "old" and

identifying my current experience something "new", something that is indeed "different". What do we have to experience when there is something "new"? or, Is it still buzzing with something "better"? Are we not biased?

This vagueness of change in information society studies makes various scholars raise a question what exactly constitutes a change in information societies (Webster, May, Day and Robins).

**Origin of Information Society**

In this part we will heavily draw on works of Day, and, to a certain point, of Robins and Webster. These scholars critically analyze the history of information and information society. We will also draw on the works of May and other relevant scholars.

Day identifies in his book *The Modern Invention of Information* (2001) three stages of information age: European documentation before and after World War II; American information and cybernetic theory soon after World War II; and "virtual age" that is our contemporariness.

Day relates the origin of "Information age" to the emergence of documentation,



a project emerged in late XIX century Europe whose leading proponents were Paul Otlet, a peace activist and father of information science (a later of name of documentation), and Suzanne Briet, a visionary and historian who extended Otlet's ideas in early XX century.

The distinguishing characteristic of documentation in Europe, in contrast to both librarianship in Europe and to ...information science in the United States, was the manner in which documentation understood the relationship between information technology and social systems. For documentation, the technical retrieval of materials was deeply tied to the social and institutional use and goals for documentary materials. In contrast to the functions of libraries and librarians, which defined themselves in terms of the historical collection and preservation of books, documentalists emphasized the utilitarian integration of technology and technique toward specific social goals (Day 2001:7).

Founders of the European documentations believed documentation will be a valuable profession that will contribute to the progress and well-being of humanity. To implement his project Otlet in collaboration with Henri Lefantaine (a Nobel Peace Prize winner in 1913) established numerous professional organizations dedicated to standardization, bibliography, international associations and cooperation, one of them which was Union of International Association, works under the mandate of United Nations, aimed at researching on international organizations, global civil society and world problems. These various organizations were foundational for assuring international production and commerce, information, communication and modern economic development, and

eventually found their global form in such organizations as League of Nations, and late United Nations (see Day 2001:9).

Otlet saw establishment of World Peace in the dissemination and expansion of scientific knowledge throughout the world. He hoped for creating a World City that contained every bit of and the best knowledge mankind ever has achieved, and scientific communities, organizations and any individual could access and use the knowledge for their betterment. For this end he, with his colleague Lefantaine, searched for very easy way of organizing knowledge/information and designed so-called Universal Decimal Classification, an elaborate system of organization of knowledge used in many libraries around the world. This classification system involves "breaking complex textual elements into simpler, molecular forms, which were then linked together as a data base by means of the Universal Decimal Classification system" (Day 2001:16). This system, Day clarifies, "Otlet's practice of breaking down the material book into atomic units through the use of note cards and then rebuilding it through a classificatory metalanguage literally opened the traditional closure of the book and reassembled it within expanding universes of knowledge" (2001:16).

For Otlet book is a container of knowledge comprised of "facts". However, book is not a self-enclosed container, it is a network. Internally, book is a generative network of statements, words, and phrases. Externally, it is a network of other books, bibliographies, museums, universities etc, in other words, any other "biblion", as Day calls them, of mediums located globally. For Otlet book contains what came before it in other books and this is revealed

through "repetition". "Repetition" is not a repetition of what has been said already, but it is rather "amplification". Through this "repetition" as "amplification" knowledge multiplies and increases exponentially. Texts are, in this form, a dynamic vehicle or embodiment of repetition leading to an ever greater expansion of knowledge and change in the form of knowledge. "[F]or Otlet, the monograph was, thus, a node within a system of linkages, which together formed the larger idea of the monograph or "book" of all universal knowledge" (2001:14,16).

For Otlet, content of the book is a mental energy ("thought-energy") of thought that has been materialized in the book. "The mental energy of thought is contained, produced, and liberated by means of the book" and "as "mental representation of fact, thought is neither created nor destroyed but evolves to make facts more clear and true" (Day 2001:15). Since book is a network, it connects with other books and relevant "biblion" (or "machines" as Otlet says) "forming systemic assemblages in the conservation and transformation of mental energy throughout history" (Day 2001:18). History was, for Otlet, as Day writes, "a progressive movement of ever-accumulating knowledge and clarity" (2001:20).

This is how Otlet conceptualized history in the progressive form of knowledge. Otlet believed this progressive knowledge of ever increasing clarity undoubtedly should contribute to the advancement of mankind and Otlet believed all these ever illuminating knowledge of the world should be made available to the community, to everyone. Therefore, he conceived his project of World City where every piece of

knowledge of mankind will be stored and anyone can access and use it for his benefit. This undoubtedly involves integration of communication technologies. Otlet believed, even prophesized that media technology will contribute to this end providing every citizen a comfort at his hand of accessing a world information database. For this end Otlet and his colleague Lefantaine have developed Universal Decimal Classification to organize knowledge in the most convenient and integrated way. Otlet envisioned a multimedia device that "acting at a distance... would combine the radio, x-rays, cinema, and microscopic photography," projecting the information of the world onto an "individual screen".

Such a device would provide each person with a true and complete picture of all knowledge in a manner that would be most true for each person, thus eliminating conflicts over differing interpretations and providing the grounds for "true" conversation. ... Otlet's vision thus culminates with a unification of informational multiplicity in an aesthetically representational form delivered through what we might today see as a "multimedia" computer (Day 2001:20).

This multimedia device would solve, Day says, "the problem of science (to rationally represent all things in the world), the problem of technique (to rationally organize all the knowledge of the world), and the problem of society (to make each person all the knowledge of the world)" (2001:20). However, no matter how brilliant Otlet's utopian project is, Day states, "Otlet's vision of documentation as a vision for a society in which standardization-technological, aesthetic, and psychological-is the necessary condition for all true knowledge" (2001:20).



However, the progress, in which Otlet had a firm faith, failed to prevent World Wars. After the First World War, Otlet's ideas faded away and he himself died in 1944.

Briet expands and goes beyond the trope of "book" of Otlet. She defines "document" as an "evidence". She brings an example of a newly discovered Antelope in Africa. Antelope is brought to Paris and press released into newspapers, radio and newsreels. Its discovery becomes an "object of communication" in academia and scientific community. When animal dies its body will be preserved in museum, and further, monographs appear on it, then it will enter zoological encyclopedia and general encyclopedia. Eventually, these will be announced and will be cataloged in the library. Perhaps, later movies, paintings, and photographs etc will be released about the antelope. All these materials then will be analyzed, translated and re-distributed. The end of this trail of evidence is that "their ultimate conservation and utilization are determined by some general techniques and by sound methods for assembling the documents" (Briet 1951:8 cited in Day 2001:23).

**B**riet says "the cataloged Antelope is an initial document and the other documents are secondary or derived" (Briet 1951:8 cited in Day 2001:23). Pictures of stars, statistical reports, mathematical models, books, articles, museum exhibitions, and even books etc are all documents and we refer to them as evidences to substantiate or de-substantiate our expectations. However, the most important concept in Briet's theory is her concept of "bibliographical indexation", which means, in Days words, "defining documents by

their indexical relationships to other documents and, moreover, to other documentary representations (such as bibliographical records and meta-language)" (2001:23).

... every librarian knows the importance of the indexical relations of signs to one another in the placement and definition of bibliographic documents. For example, books can only be cataloged and therefore come into bibliographical existence within the context of previously approved vocabularies, such as subject headings, authority records for authors' names, and approved syntactical structures for subject, name, and even title entries. For a librarian, documents as evidence or facts are established and found by entering into authorized (or as librarians say, "controlled") institutional networks of language. By defining documents within a network or within networks of indexical relations, the documentary object is transformed from being an object per se into a semiotic term within a network of production. And once defined within such a network, it more easily can metaphorically enter other networks, or it can metonymically come to symbolize, and even rhetorically leverage, an existing network (Day 2001:24).

Therefore, the museums, libraries, universities or laboratories that contain these objects or species are institutions that provide or establish the proof and criteria for the proof. They are "dynamic agencies in the scientific production of the real" (Day 2001:26). In other words, these institutional and scientific networks are networks of information productions. In Briet's sense this means documentation and documentation centers are the utmost important practices and institutions. Documentalists, in her view,

will be establishing the "scientificness" of every fact and will build a "scientific" culture in or of the future. In other words, documentalists will create unlimited indexical networks around the world connecting every part and every person ideally.

For Briet, technological and organizational developments in society necessitate a corresponding development in documentary technique, both in order to respond to the subsequent flood of documents and to serve further social developments. In *Qu'est-ce que la documentation?*, Briet argues that industrial progress demands not only better access to scientific documents but also cultural developments that prepare for and support such progress (Day 2001:29).

Here, Day further clarifies that science for Briet is identical to industrial progress, and this industrial or scientific progress is of those Western capitalist countries. And to build a global culture these scientific progresses must spread to underdeveloped countries, in other words, "documentation [must] be spread to the "countless masses" according to the doctrine of postwar "cultural assistance" or "development" (Briet P. 45 cited in Day 2001:29). Since, Briet believes an overproduction of documents has occurred in our modern time and only documentation can solve this crisis of culture namely information fragmentation. Therefore, for Briet documentation should reduce this information fragmentation and establish an exchange of materials for

"scientific" cultural production around the globe and lead the individual scientist "like the dog on the hunt – totally before [researcher], guided, guiding" ("Bibliothecaires 43 cited in Day 2001:31").

Documentation, as a sign of the present and as a harbinger of the future, not only responds to ... "new humanism" but also prepares the ground for this new humanism in terms of its "technique" At the heart of this technique is "the coordination" of diverse "sectors in the same organization". Briet reads the preparation of future culture and society in terms of those techniques of selection, combination, and standardization that lie at the heart of bibliographic control (Day 2001:32-33).

To build this "new humanism", which is also the inevitable "future", Briet proposes two methods, which are in fact methods of standardization: technical standardization and education. Technical standardization is "type of precision most favored by the dynamics of global production, for by bringing materials onto a plane of standard consistency (... *centre de calcul*), different elements may enter into operational relationships with one another, thus forming a system of production" (Day 2001:33). This of course involves standardization of communication, which entails directly information and communication technologies. However, for Briet, first standardization is *language*.

Briet says there is no need of inventing universal language like

«  
*Technological and organizational developments in society necessitate a corresponding development in documentary technique, both in order to respond to the subsequent flood of documents and to serve further social developments*  
»



Esperanto, which she says failed, but "English, French, and Spanish" are going to be languages of "civilized" people. Standardization here goes far beyond technical consistency to the cultural standardization.

"Standardization" occurs in a number of steps, leading from linguistic and educational standardization to documentary and communicational standardization and finally to industrial standardization, so that third-world countries may be "developed" to the "scientific" level of first-world countries through this process... Documentation is, thus, part of the rational leveling and reorganization of national and ethnic cultures that mark the "progress" of postwar capitalist industries and is part of the battle against other forms of social organization — both traditional and communist — that threaten it (Day 2001:34).

This means global progress will be determined by Western capitalist countries and "underdeveloped" countries should adopt their values and ideals as a model for their own progress along with all the alienation and inequalities they will also bring. Within this globalization through standardization, technical and cultural, Briet's second method — education, plays a key role.

"Scientific" education is specific in terms of its subject fields and universal in terms of its desire for global application. The properly trained documentalist is a symbol of this modern form of education as well as a leading player within it. Briet accepts without hesitation the modernist argument for progress, namely, that "humanity tends toward unification." Within this historical tendency toward global unification, documentalists have the special role, in conjunction with

UNESCO's Library Division, of being "new types of missionaries" and "initiating into culture the more or less uncultured masses and of increasing their contact with scientists [*avec les savants*]" (*Qu'est-ce que la documentation?* 41 cited in Day 2001:35).

Otlet and Briet believed in the power of science, in the progress. They believed in positivism, in the objectified knowledge, that it can determine the *truth* with which we can guide our lives. However, their progress could not prevent the World Wars. There is no definition of progress in the theories of Otlet and Briet.

After the World War II, word "documentation" fades away; instead of it "information theory" becomes prominent. This time quantitative research begins to prevail in information theory and emphasis begins to be focused on the *efficiency*. This is an important stage where information theory firmly establishes itself as a science on formal grounds and concept of system becomes solidified in academia and beyond. Also, this is a period where Shannon and Weaver's mathematical theory of information was first formulated.

Shannon and Weaver formulated their theories in their book *The Mathematical Theory of Communication* ([1949] 1964), a touchstone for information theory and cybernetic theories. The book consists of two parts, an original Shannon's theory aimed at solving technical problems for clear communication, and Weaver's theory which extends Shannon's theory to social field. The key concept or rather a metaphor of their theories is so-called "conduit" metaphor.

Shannon and Weaver's theories model any communication as following:

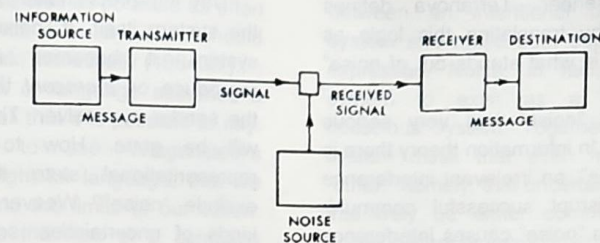


Fig. 1. Formal model of communication by Shannon and Weaver (1964:7).

Here, information is a message emanated from the source or sender and enters a transmitter which translates it into signal. Signal travels through channel and receiver transmits it and sends to the desired destination. For example, our words on telephone line will be transmitted into electrical current (signal) that runs through a wire (channel) and receiver translates signals as a transmitter into a message for himself or for any other destinations. Another example is when we talk to each other face-to-face. Our brains are the source and vocal cords are transmitters, and sound pressures we generated are signals. Channel will be the air, a medium where sound travels. Receiver's ears will send the sounds to the brain for analysis.

In this information theory, *what* is sent is not important from the engineering perspective, but what is important is the *effect* of communication. In other words, receiver must be able to *reproduce* what sender intended or meant, and be able to confirm it through actions. If this happens then communication is regarded as been successful. This is the point of efficiency.

Weaver identifies three problems in communication: A. "How accurately can the symbols of communication be transmitted? (The technical problem)"; B. "How precisely do the transmitted symbols convey the desired meaning?

(The semantic problem)"; C. "How effectively does the received meaning affect conduct in the desired way?" (The effectiveness problem) (1964:4). Weaver uses the word "symbol" (written speech, for instance) interchangeably depending on the situation with words such as "signal" (radio transmission) or "pattern" (television). Weaver warns that, perhaps, reader might think that Problem A is relatively easier, because it is a job of engineers that must design a good communication system, and genuine problems are B and C. However, Weaver argues, it is the A which is the utmost urgent problem, because Problems B and C will be significant only when accurate transmission of signals are established, without which there is no point of arguing. Therefore, Weaver claims, a theory aimed at solving Problem A is also at the same time, "to a significant degree, a theory of levels B and C" (1964:6).

However, communication does not run smoothly as always expected. There is always interference from a third party or environment in general. This is called "noise". This is a factor that always threatens the clear communication. This is what Shannon initially hoped to solve. Message sent from the sender must be reproduced in the receiver as at least approximately as possible to the original message sent



from the sender. Terranova defines information by translating this logic as "Information is what stands out of noise" (2004:10).

Weaver's "noise" has very serious implications. In information theory there is always "noise", an irrelevant interference that can disrupt successful communication. When "noise" causes interference in communication it becomes hard to distinguish "message" (information) from the "noise". This causes great degree of "uncertainty" in the system - in the system of communication. In the technical term it will be indeed a "noise" interfering with the "message" in the line of telephone, for instance, making comprehension unclear. Therefore, in any case, communication must be clear and accurate. However, in Terranova's metaphor, this means "to hold a dialogue is to suppose a third man and to seek to exclude him" (Serres 1982:47 cited in Terranova 2004:15). This leads to very different logic of dialogue, different from opposing sides. Communicators are, as Terranova says, on the "same side", it is the "third party" that should be excluded from the dialogue or communication. This has serious implications.

Communication as a system is always threatened by a "noise" which is always ready to invade system. However, any message as a signal always travels through certain media (channels), be it air, underwater or internet cable. However, the capacity of the channel to transmit the signal varies and not unlimited. This greatly constrains what should be sent or not to be sent through the channel. Therefore, choice is not exactly a "free will" of the subject, rather it is a statistical probability to be chosen.

Day interprets "noise" as an effect the system itself. If "noise" invades the system, it becomes impossible to reproduce or represent the intention of the sender in receiver. The choice itself will be gone. How to provide the representational state if we cannot exclude "noise"? Weaver identifies two kinds of uncertainties: so-called "good" uncertainty is desirable, because it is the freedom of the sender; the "bad" uncertainty is an uncertainty arising from the "noise" invading the communication; this is undesirable uncertainty (1964:19).

Day calls "noise" as logical exterior rather than an "empirical fact". It has been generated by the system itself to exist.

As an intrusion, noise simultaneously breaches the boundary of a system and marks that set of relations as a system. If it were not for the assumption of noise, there would be no system, nor would reception have anything to measure intention against. To put this another way, if there were neither bad information nor good information, neither bad uncertainty nor good uncertainty, but rather uncertain uncertainty, how could a system of information exist, especially one with intentional speakers and listeners? (2001:44).

This may lead to an interesting conclusion that *system exists on what has been excluded*. System must be always perfect enough to provide smooth and clear communications. This is done on the fact by excluding "noise", or since system must always seek perfection, it must find a way to "translate" "noise" into "terms that system can understand and control" (Day 2001:43).

Weaver writes:

Language must be designed (or developed) with a view to the totality of things that man may wish to say; but not being able to accomplish everything, it

too should do as well as possible as often as possible. That is to say, it too should deal with its task, statistically (1964:27).

This design of language assumes a knowledge of all that it is possible to say. It assumes, to use Wittgenstein's metaphor of sight for language, that we can see beyond the limits of our vision. Indeed, this is the task of a complete description of communication—to see beyond communication. It is the purpose of information theory—as a theory of design or engineering—to create the conditions for the proper transmission of meaning, assuming, of course, that such a mechanism can recognize what man "may wish to say" (Day 2001:45).

This task to consider "the totality of things that man may wish to say", Day criticizes, in fact, impossible or infinitely problematic task if to consider it from the point of view of unconsciousness. Unconsciousness, as psychoanalysis claims, is a symbol of "excess of meaning to language and uncontrollability of vocabulary", however, our communication model dismisses such claim as unnecessary "noise" that will interfere with clear communication (Day: 2001:45). Then, it follows, although "we wish to say what we desire", but always limited "in what we can say", every system is a "failed" system.

However, Day brings:

"Noise" is not an "empirical fact" but rather a logically necessary component for the existence of Weaver and Wiener's information theory. Further, behind the division of good noise (good uncertainty) and bad noise (bad uncertainty) lies an even more frightening noise for Weaver and Wiener—a noise of the uncertainty of the division between good and bad noise (that is to say, good or bad information). And this uncertainty is what the division

between an intentional and positivist system and noise both suppresses and expresses. Noise, in fact, allows the system to exist as a unitary and conscious system. Together, noise and system mask that even more frightful "other," namely, that uncertain uncertainty that may be either communication or noise, system or environment (2001:44).

Weaver's theory sees nature, environment as inherently chaotic, "meaningless" and very uncertain which is against the human nature. However, Weaver and Wiener, another founder of cybernetics, see human beings, community and language are chaotic systems. They believe man cannot bear such chaotic, uncertain condition that it is in his nature that he needs information, he will not bear uncertainty (entropy), and he must have "certainty" anytime. Therefore, what information theory concerns is how to adequately design a perfect communication system that can communicate "fully" what man "wishes to say". If there is no channel to communicate, either man as an intentional subject searches for alternative channels, or perhaps, cannot communicate at all whose consequence will be, I think, unpredictable. Can we design a society or culture that allows better communication?

Wiener, as a mathematician and a philosopher, further distributes this cybernetic theory to the social and historical spaces. He formulates so-called "first law of the law" where it says clarity is the utmost condition for any reproduction of system be it society, discourse, or interpretation. Language must be clear and unambiguous enough without any secondary or third interpretation, even in government's speech, where "responsibility" is clearly established and defined.



Wiener says, clarity is far more important factor than theoretical principles or equality and justice.

As system, in society any message must reach any part of the society without any hindrance and without any ambiguity or double meaning. In other words, a message must be reproducible in any part of the society without distortion or fragmentation.

For Wiener there must not be an unclear point of message in the system, there must be always a singular point where messages are emanating from. And these messages must be representable, and reproducible in any part of the society or the system. All other "noises" must be avoided, or at least must be "translated" in terms understandable to the system, including the "radical alterity". Wiener appeals to political jargons such that communication system will ensure the democratic ideals, because without clear transmission of equity and justice, and their reproduction without distortions are the "clear" condition for democracy to function. This means Wiener is projecting a model of technical system upon society with industrial logic aimed at ensuring, as Day says, free flow of messages. The point is that system must avoid any uncertainties and establish a predictable pattern in reality turning "cybernetics into a form of "scientific" social planning complete with technological intermediaries" (Day 2001:49-50).

Wiener claims that cybernetics is not only a science, but also a necessary practice for the human survival. Man cannot stand uncertainty, "meaninglessness" or "information death", and cybernetics will help man in his survival.

The knowledge that is gained by the definition, classification, and prioritization of information of all kinds allows man to

balance his needs against the challenge of society and the cosmos. As Wiener wrote: "To live effectively is to live with adequate information. Thus communication and control belong to the essence of man's inner life, even as they belong to his life in society" (1954:18 cited in 2001:50).

Day says "nature" is a series of messages or codes that humans must decipher, not only for the survival of humans but in order for humans to live most properly "man". Science, in other words, is a form of humanism in Wiener's work... (2001:50). However, there is a brutal paradox here, in Day's words, that cybernetics as a science becomes impossible to separate from the politics of man, because it, representing the nature and humans to the man, defines the "man" "to be most properly "man".

This whole process, Day states, leads nothing but to technological determinism where effort to create an efficient system will lead to ever increasing standardization and control in order to create a greater amount of "freedom". This leads to little difference between so-called "democratic" states governed by "control" and totalitarian states governed by "discipline" save in the addition of more and more subtle technologically and technically enabled devices of communication and information and save for greater public acceptance of the virtues of communications and informational space" (2001:51).

However, what exactly is the function of system? Why is it struggling so hard to preserve "itself" as a system? The reason of existence for a system is to reproduce the identity "same" wherever it may be. System as a communication system must reproduce what sender meant in the receiver without any distortion. Identity

must be identical to itself - this is what system tries to preserve. It has to save the identity from dissolution by "noise", it must reproduce identity identical to itself in time and space. There must be "someone" who is speaking the language, in Day's words. System cannot tolerate "speaking" in the dark, subject must be identified.

Italian philosopher Agamben interestingly demonstrates the logic of State:

The State can recognize any claim for identity—even that of a State within the State. What the State cannot tolerate in any way, however, is that the singularities form a community without affirming an identity, that humans co-belong without any representable condition of belonging (even in the form of a simple presupposition). The State, as Alain Badiou has shown, is not founded on a social bond, of which it would be the expression, but rather on the dissolution, *the unbinding it prohibits* [my emphasis]. For the State, therefore, what is important is never the singularity as such, but only its inclusion in some identity, whatever identity (but the possibility of the *whatever* itself being taken up without an identity is a threat the State cannot come to terms with).

...Whatever singularity, which wants to appropriate belonging itself, its own being-in-language, and thus rejects all identity and every condition of belonging, is the principal enemy of the State. Wherever these singularities peacefully demonstrate their being in common there will be a Tianmen, and soon or later, the tanks will appear (2007:86-87).

Third stage of information society is our contemporary era defined by "virtual reality". As a proponent of this stage Day brings the theory of French philosopher Pierre Levy, one of the few philosophers

who specialize in the problems contemporary digital communications and cyberspace. Levy believes there is an information revolution brought by ICTs, and ICTs will unite mankind through creating communities not limited by the problems of "traditional" communities based on "territory". However, how this is going to be realized is an interesting question.

Levy begins his work by the analysis of the "virtual" appropriated from the works of Deleuze and Guattari, *Anti-Oedipous*, and Deleuze's solo work *Difference and Repetition*. In *Anti-Oedipous*, concept of "desire" is utmost important. Deleuze and Guattari move beyond simple libidinal desire restricted to phallus, going beyond individual psychoanalysis to argue capitalist state maintains itself by constantly producing desires for the extraction of surplus values. Their conceptualization of desire is different than usual desire understood in Freud or Lacan that desire which tries to acquire an object that lacks, for instance mother's breast. However, due to the fear of castration from the Father's side child represses this desire which manifests itself always in the form of neurosis in the unconsciousness. Deleuze and Guattari argue against this definition of unconsciousness as a "theatre of representation" of lacking object as they call it, by redefining unconsciousness as a "factory" with an unlimited potential that sprouts out various combinations of desires. These "flows" or "forces", as Deleuze and Guattari call them, are productive and they are interrupted by desiring-machines that seek to channel them. These desiring-machines could be anything from "breast that produces milk" to "political movements" that seek same goal "to get



connected" with other desiring-machines: infant's mouth or mass (Shatz 2014; see Deleuze and Guattari 2000).

What Levy appropriates first from this Deleuze's and Guattari's work is "flow" and "force" of desires and analogizes them with "information" whose nature is "flow". Levy claims contemporary ICTs are revolutionary against "old technologies" in that they allow entrepreneurial personal productivity to each person which, Levy claims, more natural to human economy. Information age, Levy continues, revolutionary not just because of this new capitalist productivity, but productivity is characterized by knowledge exchanges. Here the importance of concept "virtual": these "flows"/"information" form the global "thought", or "collective intelligence", as Levy calls it, a background, as Day says, upon which financial networks, technical networks, social organization, and information and communication exchanges becomes "connected" (Day 2001:64).

Levy retrieves the concept of "Virtual" from Deleuze's solo work *Difference and Repetition* where Deleuze makes a distinction between "virtual" and "possible", whose difference lies in "the process of iterative unfolding between what Deleuze terms the "Idea" and that of the representational concept" (*Difference and Repetition* 191 cited in Day 2001:65). Representational concept is ("repetition" signifies for it), objects out of what is possible in confines of idea. However, Idea is far more "complex". Deleuze analogizes it with chromosome, a complex structure determines the all the genetic characteristics of human body. It is a potential. Deleuze and Guattari take the example of dice, when you roll it all the combination of potentialities are realized in a throw, and certain aspect of

the potentialities will be actualized. This is the "virtuality" of the Idea.

Levy reverses Deleuze's and Guattari's "virtual" as "potential" as "actual" to as "actual" to "potential". Clearly articulates "[t]hrough a dialectic, actualization is important for Levy, it is "virtualization" on a global scale – as the idealistic *Aufheben* [taken] of the individual and "concrete" into the global collective and "virtual" – that is the Levy's main interest" (2001:68). He uses also this concept, from Deleuze and Guattari, "deterritorialization", which signifies, for example, destruction of traditional community by the advent of capitalist desires.

...actualization of the virtual for Levy means that the virtual "must still grasp onto some physical supports and become actualized here or elsewhere, now or later" (*Qu'est-ce que le virtuel?* 18 cited in Day 2001:69).

Such actualization in the physical form implies nothing but technologically mediated "virtual reality". Levy wants to make his "virtual" "actual"; such effort makes him strongly imply a technological determinism of "Information age". Levy writes

Access to the intellectual process of the whole informs that of each part, individual or group, and nourishes in turn that of the whole. In so doing we make the transition from collective intelligence to intelligent community (*Becoming Virtual* 145 cited in Day 2001:69-70).

However, Day:

...he [Levy] does use information and communication technologies as metaphors for community and as organizing central tokens for the formation of social groups.

...The tropes and technologies privileged within a given "information age"

overwrite all other social forms for existence (2001:72, 73).

Here, community building and group formations are realized through *technologies*, contrary to our "traditional" sociological understandings. This technologized understanding of community building and group formations elevate the status of technologies higher than before. Such elevations of technologies privilege them through various tropes/discourses creating "myths" about certain societies or ages.

Unlike we have understood human existence by the existential statuses through the philosophy of Sartre or Heidegger, now, our beings/becomings become "mediated" through technologies. Another problem is that such technologically mediated community reads back the potentialities of the technologies back to the society and the individuals. In other words, telephone, for instance, allows a fast communication between people overcoming distance and time. Now, you have to justify adopting a telephone because it will create a society based on such fast connections overcoming the limits of space and time. This kind of trope of technologies begins to project certain future visions of society empowering certain technologies. Matter is here not in the technology, but rather *investment of social power* in technologies. Such investments have to, through certain tropes/discourses, justify or de-justify certain technologies projecting a future.

Technological devices thus become social forces for constructing human societies based on the tropic qualities attributed to such devices. Technological devices are more than simply mechanical agents for enforcing social power; they

are important rhetorical and semiotic devices and as such are fundamental (as Briet recognized) for the primary stages of colonization, especially within modernity's information- or communication-based economy (Day 2001:74).

Another point should be made in Levy's statement is inevitable standardization of objects that run through networks to facilitate its smooth circulation, even if it includes standardization of language, design and programming of the objects. However, for such standardization, object has to go through "Center of calculation" (for instance, computer programmers and software designers). Day writes

...the "quasi-object" in its constituted/constituting duality is nothing other than that which is defined within a set of institutions and signs to play a central role in establishing such-and-such institutions and signs a domain over materials (Day 2001:82-83).

Levy worries that after a global community is established it must be not disturbed by "radical alterity" - other than the "community" itself. This again brings back the conduit metaphor of Wiener. Levy brings certain institutional discourses to justify the construction of "quasi-objects" and its circulation. There are two discourses: one is so-called Post-Fordist industrial organization namely "virtual organization", and other is metaphor of "sports". These two concepts are permeated by common terminology of "team" and "management". By the "virtual organization", Levy means individuals connected to the networks coordinating their actions together for the common goal. Such "virtual" organization is becoming common in our contemporary era against hierarchical bureaucratic structure. In this organization workers are



relatively independent and flexible enough to take initiatives that fit their common goal within the companies or other institutions. This is the "spirit" of "team". However, Deleuze and Guattari are worried that trope of "team" might further permeate the society and subject it to its capitalistic semiotic encodings.

Levy says "finance... is one of the most characteristic activities associated with the growth of virtualization" (*Becoming Virtual* 68 cited in Day 2001:85). Levy believes money is the symbol of virtual communications as it is a common object in the play of global exchange. Along with it, knowledge is too such object. They are goods that can be capitalized in global economy. Levy says contemporary economy is not based anymore on institu-

tions of certification and hiring, but on a "self-promotion, involving qualitatively differentiated abilities, by independent producers or small teams" (*Collective Intelligence* 4 cited in Day 2001:85). However, Day seriously criticizes Levy for understanding money in such a naive way as mere "finance". Money, far from running "smoothly", still embodies actual labor, intellectual or physical, not only being a symbol, but enacting an inequality in wealth and exchange that conceals its violent material contradictions in production and consumption. For language there is also a same problem.

Language creates understandings from misunderstandings and misunder-

standings from understandings. It always and can be nothing other than material, whether or not it occurs through so-called virtual (or more accurately digital) technologies. Its exchanges are always rough, interpretative, and temporal (Day 2001:87-88).

At the end, a question rises: for whom this global community was designed? By those who determine which technologies will be used and sanctioned like of those multinational corporations and political elites? They sought long way to overcome their limitations of production. Now they have created a "globe" (after factories and nation-states) for their extractions of surplus values. Information society and its future is nothing but a "product of neo-

liberalism's society of control that encodes us from our very first words, that tropes us from birth to death" (Day 2001:88). With this I finalize my brief analysis.

### Conclusion

In this essay we traced the origin of information/network society. Most of theories of information society somehow conceptualize it as an obvious event that coming to be "realized" in near future or already in progress under such prestigious names as "information age", "post-industrial society", "post modernity". However, it is interesting to see how such processes getting "realized" without human agents that comprise society

What is this force which is "asocial" enough to govern society from somewhere exterior of it? Most often this is a technological force (information and communication technology, for instance) that promised to bring a change to the society. However, such a technological determinism is divorced from reality; after all it is created in society by scholars and approved by the governments. Then, this is nothing but politics. All those "naturalized" notions are in fact politics that succeeded to make us believe in "reality".

All those "projects" of information societies project various futures that we have to inevitably live and, most often, resistance is futile. Unfortunately, in Day's words, these "projects" are themselves symptoms of various historical processes such as (World) Wars ("documentation"), Cold War ("conduit"), and failure of liberalism ("globalization"). These "projects" create various discourses establishing networks with dominant ideological tropes to strengthen their own effects. These discourses appeal to the "strong attractors" like "democracy", "peace", "justice", "progress", "freedom" and "community" etc. to create a "myth" for the world. Such "strong attractors" invest social power into the various "projects" making particular of their tokens look "promising", like ICTs. This is how future is constructed. What is chosen is not past nor present, but a future. Information society is *futurelogical*.

However, since these discourses justify certain social orders and de-justify the others, a critical approach is necessary to face all the injustices and inequalities that may be brought with them. Therefore, critical discourse analysis might prove more fruitful in

analyzing the texts on information societies than positivistic approaches to them.

### References

1. Agamben, Giorgio. [1993] 2007. *The Coming Community: Theory out of Bonds*. Vol. 1. Translated by Michael Hardt. Minneapolis: University of Minnesota.
2. Briet, Suzanne. 1954. "Bibliothécaires et documentalistes" *Revue de documentation*. 21: 41-45.
3. Briet, Suzanne. 1976. *Entre Aisne et Meuse... et au-delà: souvenirs*. Charleville-Mézières: Sociétés des Écrivains Ardennais.
4. Briet, Suzanne. 1951. *Qu'est-ce que la documentation?* Paris: Edit.
5. Day, Ronald E. 2001. *The Modern Invention of Information: Discourse, History and Power*. Carbondale and Edwardsville: Southern Illinois University Press.
6. Deleuze, Gilles. 1994. *Difference and Repetition*. Trans. Paul Patton. New York: Columbia UP.
7. Deleuze, Gilles and Felix Guattari. [1983] 2000. *Anti-Oedipus: Capitalism and Schizophrenia*. Translated by Robert Hurley, Mark Seem, and Helen R. Lane. Minneapolis: Minnesota University Press.
8. Deleuze, Gilles and Felix Guattari. [1987] 2005. *A Thousand Plateaus: Capitalism and Schizophrenia*. Translated by Brian Massumi. Minneapolis and London: Minnesota University Press.
9. Lévy, Pierre. 1998. *Becoming Virtual: Reality in the Digital Age*. Trans. Robert Bononno. New York: Plenum.
10. Lévy, Pierre. 1997. *Collective Intelligence: Mankind's Emerging World in Cyberspace*. Trans. Robert Bononno. New York: Plenum, 1997.
11. Lévy, Pierre. 1995. *Qu'est-ce que le virtuel?* Paris: Éditions La Découverte.
12. May, Christopher, ed. 2003. *Key Thinkers for the Information Theory*. London and New York: Routledge.
13. Robins, Kevin and Frank Webster. [1999] 2005. *Times of the Technoculture: From the Information Society to the Virtual Life*. London and New York: Routledge.
14. Shannon, Claude E. and Warren Weaver. 1964. *The Mathematical Theory of Communication*. Urbana: The Illinois University Press.



15. Serres, Michel. 1982. *Hermes: Literature, Science, Philosophy*. Edited by Josue V. Harari and David F. Bell. Baltimore and London: John Hopkins University Press
16. Shatz, Adam. 2010. "Desire was Everywhere" *London Review of Books* Vol. 32, 24:9-12. Retrieved June 25, 2014. (<http://www.lrb.co.uk/v32/n24/adam-shatz/desire-was-everywhere>)
17. Terranova, Tiziana. 2004. *Network Culture: Politics for the Information Age*. London and Ann Arbor, MI: Pluto Press.

18. Webster, Frank. 2006. *Theories of the Information Society*. 3d ed. London and New York: Routledge.

19. Wiener, Norbert. 1950. *The Human Use of Human Beings: Cybernetics and Society*. Cambridge: Riverside.

20. Wiener, Norbert. 1988. *The Human Use of Human Beings: Cybernetics and Society*. New York: Houghton. New York: D Capo.