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Information society before Information Society

Mathieu Triclot,
IACAP, Montpellier, 2008/06/16

The discourse on “the information society” developed until the 70’s as one of the prevailing discourse in our society; with promises to link information technology and free market with economic growth and human progress. This eventually became something like the official ideology of the European Union as demonstrated by the famous Lisbon strategy to become “the most dynamic and competitive knowledge-based economy in the world” placing “emphasis on the need to adapt constantly to changes in the information society”.

This discourse about “information society” raised its share of criticism based on technological determinism or the new informational prophecies, Here I think about the works of French authors, like Armand Mattelart, David Forest, Philippe Breton, and so on.

This discussion is not intended to review the criticisms, but to go back in time and analyse what can be considered as the first concept of information and society in the wake of the cybernetic movement, in the United States, at the end of the 1940’s.

Now, briefly, what is cybernetics and how can it claim to be the first discourse about information society?

On October 1948 the American mathematician Norbert Wiener publishes *Cybernetics*, manifesto for a new science based on the merging of several engineering fields, such as automatic computing, telecommunications or feedback control, under the new scientific concept of information. As the science of control and communication in the animal and the machine, cybernetics extends the empire of information to the life, cognition and social sciences.

For example we read in Wiener’s 1946 conference to the New York Academy of science that “fundamentally the social sciences are the study of the means of communication between man and man or, more generally, in a community of any sort of being. The unifying idea of the diverse disciplines is the message, and not any special apparatus acting on messages.”

[Wiener, “Time, Communication, and the Nervous System”, *Annals of the New York Academy of Science*, Oct 1948, p. 202]

The discourse about the information and society relationship thus appears contemporary to the development of the scientific concept of information.

But what kind of discourse is it?

Even before the publication of *Cybernetics*, Wiener already drew public attention with an open letter simply entitled “A scientist rebels”, published by *The Atlantic Monthly* magazine in the beginning of 1947. In the midst of the nuclear arms race debate, the letter, whose outraged tones are echoed in several key passages of the 1948 book, warns against the

militarization of American science and announces Wiener's commitment to withdraw cybernetics from all researches involving military funding. Thus the *Atlantic Monthly's* letter not only reminds us that information technology was born in the "World of Belsen and Hiroshima" but that the first information society discourse was, under Wiener's influence, highly critical against the evolutions of American society at the dawn of the Cold War.

The aim of this communication is thus to present the different pieces of the information society discourse in Wiener's writings, to situate them in the conflicting context around the transformations of the American science where they originate, in order to, eventually, draw a parallel between Wiener's old discourse and the newer variants of the information society.

1.1

The idea of information society embraces in Wiener's writings two different dimensions. It first aims at the new information processing devices' social impact (starting with computers). The information society is a society deeply transformed by the appearance of this new set of artefacts that cybernetics taught us to recognize as the unified information technology. More precisely, Wiener thinks that the emergence of information technology leads our societies to a new phase in industrial revolution, characterized by the integral automation of production.

I quote: "What the feedback and the vacuum tube have made possible is not the sporadic design of individual automatic mechanisms, but a general policy for the construction of automatic mechanisms of the most varied type. In this they have been reinforced by our theoretical treatment of communication. [...] It is this conjunction of circumstances which now renders possible the new automatic age. [...] In its potential significance, the vacuum tube certainly belongs to an industrial revolution different form that of the age of power." [Wiener, *The Human Use of Human Beings*, 1950, p. 153]

Thus, in Wiener's approach, the information society is not a services economy or a dematerialisation of economy through transnational networks, but a complete overhaul of industrial production. The computer, as the new brain of the factory, threatens both white and blue-collar work. On all this issues, Wiener adopted an active attitude, not only warning the public about the information society future dangers, but also trying to secure concrete alliances with trade unions and proposing plans of action.

This first component of the information discourse raises the question of the technical and social change model adopted by Wiener. Is the information society a kind of technological destiny, as Celine Lafontaine for example concludes from the examination of cybernetics conceptions?

I don't think so: in reality, Wiener's model is more complex and consistent with his political commitment. Wiener doesn't consider technology or even automation as an autonomous phenomenon making its mark on society from the outside. On the contrary, the path followed by technical change depends on the social forms. Wiener borrows here his arguments from the great narratives on technology and civilization, in particular from Lewis Mumford. He builds an analysis of technical change aware of the systemic effects and political dimensions of artefacts.

1.2

But the question of the relationship between information and society is not restricted to the social impact of technology in Wiener's writings. If one can speak about information society, it is not only because of society is being shattered by the development of new machines, but more importantly because society must be considered as a huge information processing device. In this sense, society becomes itself a cybernetic machine, which can be analysed using the discipline's conceptual toolbox.

Wiener's writings are full of political arguments about the role of secrecy in communications, the drawbacks of intellectual property, the power of media in a free society, the nature of political regimes from the point of view of information processing, all arguments that rest upon the very conceptual core of cybernetics and the definition it gave of the information concept.

One of the key arguments consists for example in opposing learning versus rigidity in machines and societies. The design of machines capable of learning serves then as a model for an efficient social organisation.

This political cybernetics raises another question, which is the one of models for political analysis and action and the transfer of models originally from the fields of natural or engineering sciences to the social sciences field. Wiener's politics appears at a time when engineers or scientists do not hesitate to offer their services to politicians. Once again, Wiener's model of social analysis tries to introduce a critical alternative to the current models of science's mobilization for action. Wiener is for example highly critical of the use of the game theory in military entities like the Rand Corporation. He explains that his use of cybernetics concepts for social analysis cannot claim to be scientific and need to be understood simply as a tool for analysis.

I quote the crucial passage in *Cybernetics*, chapter 8. It just comes right after the game theory's critic: "Our investigations in the social sciences can never furnish us with a quantity of verifiable, significant information which begins to compare with that which we have learned to expect in the natural sciences. We cannot afford to neglect them; neither should we build exaggerated expectations of their possibilities. There is much which we must leave, whether we like it or not, to the un-"scientific", narrative method of the professional historian."

[Wiener, *Cybernetics*, 1948, p. 164]

2.

The information society project in Wiener's works must be placed in the context of the intense debate on American society's commitment in the Cold War. Wiener's political discourse appears directed mostly against what he calls the militarization of American science and the new relationships between scientists, politicians and military following the Second World War.

To a first commitment against nuclear weapons, he adds a critic of the new politics of science at the end of the forties. For Wiener, information society means a new way of designing the organisation of research, from a democratic point of view, opposed to the new science factories where the social responsibility of the individual scientist wanes.

Wiener thus equally rejects the model of a technological development driven by the sole market forces and the current model of nationalization of the research and development effort

for the war. He builds a form of ecological socialism, committed to decentralised decision process amongst small autonomous communities in the Jeffersonian tradition.

3.

Eventually, it seems then interesting to compare this first full-length discourse about information society to the discourses about technological change that appear in the 1970's under the motto of information society.

We can now point at 3 main differences: first, Wiener's model doesn't share the idea that technology could completely determine social changes from the outside. Second, Wiener is very sceptical about the idea of reducing policies to a neutral government science. And third he doesn't believe in the efficiency of markets for controlling technological innovation.

In particular, Wiener's information society is build upon the axiom that information is not well suited to become a commodity. This proposal rests upon the very definition of the information measure in cybernetics, as a physical quantity opposed to entropy. Information is an element of order or structure which escapes for a short time the inevitable process towards chaos and thermal death. Information cannot retain its value through time, contrary to the usual commodities.

The contrast is striking with the contemporary conceptions of information society which rest upon precisely the extension of market to the sphere of informational commodities.

The comparison between the old and the new discourse about information society offers us a point of view towards the great gap between the conceptions of information, computer and society in the 1950's and the 80's. It accounts for a contribution in the political and cultural history of computing.