

The democratic potentiality of technologies

Lucilene CURY

Escola de Comunicações e Artes, Universidade de São Paulo
São Paulo, Brazil

and

Cleonildi TIBIRIÇÁ

Escola de Comunicações e Artes, Universidade de São Paulo
São Paulo, Brazil

ABSTRACT

The researchers of the CNPQ “Cibernética Pedagógica” - Digital Languages Laboratory (LLD) of the School of Communication and Arts of the University of São Paulo (Brazil), have been working towards understanding the different features of interdisciplinarity and, in the present paper, the authors ponder over the matter of technology and its interfaces with science and education, under the influence of Marshall McLuhan, Edgar Morin, Jacques Derrida, and the philosophers of Frankfurt’s critical theory, Herbert Marcuse and J. Habermas.

It is proposed, under this focus, a theoretical reflection over the actions that take place in real social conjectures, in accordance to the results already obtained through projects carried out by the research group - specially the “Atalhos para a Inclusão Digital” -, making it possible to describe a scientific practice relevant to contemporaneity, which, in its course, can appropriate itself in a critical way to technology, breaking with the strict epistemological paradigms and proceed to researches that shall make reference to theoretical studies of different fields of knowledge, emphasizing the interdisciplinarity as an essential substrate of this reflection, always intending to promote Education.

Keywords: technology, education, inclusion, science, society.

1. Introduction: The tradition of the criticism on technicist rationality

There are, in the course of human history, many philosophers that dedicated their life’s work to the study and analysis of technology’s action regarding men and society.

Modernity’s arrival and the expansion of capitalism, linked to the development of the sciences and techniques that inspired the evolution of a technicist rationality, which invaded every single aspect of the human life and awoke, as never before, a deep critical reaction, regarding the formulation of an ‘elucidative reason’, that would be capable of re-orientate the making of science and technology, in the sense of replacing over man - and not over economic development - the focus of the research, of the invention, of the innovation.

Right in the middle of last century’s 1950, the Canadian philosopher Marshall McLuhan claimed for our attention on the profound cognitive and cultural transformations, carried out by technologies. His studies made an impact on his contemporaneous intellectuals, through his complex and interdisciplinary

approach, promoting both reactions of acceptance and rejection, many times guided by the incomprehension of the large scope of his reflections.

McLuhan's studies already pointed to the arrival of a full time technologized society and to technology's absorption of men (adversely to what would be desirable), in case the considerations and reflections about the matter weren't incorporated by formal and informal educational instances.

Refusing himself, also, to a reflection limited to one disciplinary field, the German philosopher Herbert Marcuse - icon of the great libertarian and countercultural movements during the 1960's - again, gave us an alarming view over the unidimensionality that could be consequence to the alienated adherence to a technocrat dynamic, which, if not contested through a "Great Refusal" to utilitarianism and to consumerism as a replacement to pleasure and knowledge, would neutralize our capacity of invention and utopia, culminating in the neutralization of the subject.

Another great philosopher of Frankfurt's Critical Theory, Juergen Habermas proposes, as a way to overcome instrumental rationality, the communicative action that, in its free and critical inter-subjectivity, would be inclined to give power to men in face of technoscience's domain. Regarding such an approach, we refer to CURY's article, entitled "Reflexões a respeito do papel da Universidade face à tecnociência", enlightened by the ideas of Jacques Derrida, discusses the role of the University in face of technological progress.

The article considers the multiple functions of University, emphasizing what refers to as information and communication technology, to think over its new role, in the context of changes in social organization that followed them. Knowledge and technology are the focus of the problem - or, even better, the focus of the false problem, whereas, if the idea of

science is the basic principle leading the University, technologies used in society are constitutive, in fact, a space to which the University has to be devoted to, with the objective of treating these now existing characteristics of a society in irreversible transformation, in a way of operating on it with dignity, competence and effectiveness.

In conclusion, in order to configure our reflection in its best form, we wish to clarify that the principle that puts us in motion is the one of the epistemology of complexity, by Edgar Morin, and that his complete work lays the foundations of our possibilities of intervention, already raised by the tradition of criticism on technicist rationality, always in an interdisciplinary manner.

We follow his ideas when he asserts: "Scientific culture, which was developed in the 19th and 20th centuries, proportionated an extraordinary multiplication of knowledge. The scientific discoveries reveal unknown aspects of reality, but the development of disciplines fragmentation and subdivision eliminated the great questions of humanist culture" (p.136), to reach mass culture, when, then, states: "I am the first to have studied mass culture in its complexity, considering it's multidimensional aspects, integrating the observer in the observation, outstanding the dialogic between production and creation, in other words, it's antagonistic complexity" (p.137).

In general, the authors referred to above and their contributions to social action, the foundation to the activities of the Research Group CNPq Cibernética Pedagógica - Laboratório de Linguagens Digitais (LLD) of the School of Communication and Arts of the University of São Paulo, starting reason to consider the matter of technique and, therefore the technology that invades multiple corners of global society, in which we are all inserted.

It is our concern to reach further in the problem of digital and social inclusion, theme that is

present in all of the Group's work, in the sense of catching a glimpse of the possibilities of democratization, that the digital media is able to proportionate to the socially less fortunate, as confirmed by Saskia Sassen (2010).

It is not about accepting the domination of men by technique, old jargon used by as many as the ones that repelled the use of technology by a free society, humanized and set free from savage capitalism - It is, as a matter of fact, about verifying that, through an individualized use of digital technology displays, that now a days are available in a lower cost, that a great parcel of world population can be connected to subjects elsewhere, which takes us to a larger possibility of communication and that is our basic conjecture, that allows us to advance in the practice of what we call "digital literacy".

Our research, in the Group, is performed with priority to non-schooling environments and our target is, preferentially, found among children and young people, without excluding adults.

2. Theory and Practice of the Research Group CNPq Cibernética Pedagógica

In projects such as "Atalhos para a Inclusão Digital - alfabetização de crianças e jovens", carried on since the beginning of the year 2000 and still in development, we expect the support of students with scholarships that participate under different aspects.

As it started, we produced a pre-test, when putting together tools of digital literacy of the cleaning staff of the University, joined with the School of Communication and Arts, in which we work. We discovered, in a first experience, the lack of skill amongst the participating subjects (women). At the same time, we were able to notice, in another way, the ability, the dominion of young people, residents of a *favela* in the surroundings of the University, San Remo, to deal with computers, in such a way that the next step was aiding this

participants in the use of the Internet and, specially, in the creation and development of personal webpages and websites of friends and others.

The work was interrupted until 2008, when it was reinitiated with a new purpose - of comparing the Study of Communication, in which we work with the Universities of greater prestige overseas and pursue in this study, with the objective of making our disciplines and classes openly available on the Internet, so that professionals in the field can be able to know our theme choices and theoretical references, as well as any other person interested in the area that can find advantages in the open access.

The project remains in the present school year, giving direction to the comparative study between the main schools of Communication and Media Studies, found before us in the latest ranking of excellency QS World Universities, which places us in the 110 position (www.estadao.com.br – Educação 4th of July, 2012).

At the same time, we have been working on the refinement of the website of the Research Group Cibernética Pedagógica, www.cpedagogica.eca.usp.br, with the objective of making it visually capable of capturing the interest of the largest possible number of people, disregarding the relationship they might have with the Academy. Our supposition is that, with the contribution of the Arts this may come to be achieved and the Research project, in its current version, is entitled PORTLAB - A Digital Art Model.

At last, we are still negotiating a partnership with institutions related to work with minors from Mato Grosso do Sul, in the middle of the country, to the development of affirmative actions relating the use of technology - so that, during these years, our option has been the collaborative work between researchers and students of different fields of knowledge, in

order to act in the complexity of the context in which it is identified digital exclusion - context of social-economic-cultural inequality, of which cognitive inequality is consequence. Hence it follows that thinking digital inclusion supposes beforehand the promotion of accessibility, through implantation of public spaces capable of promoting the use of digital technology, connected to the world wide net of wired computers, in lower costs.

It is only from real accessibility that one can consider possible to continue the process of promoting education by technological means. Bringing the citizen closer to technology and to comprehend how it works, is the first step to the communicational process of critical education: to promote by dialogues and communicative action the comprehension of the sense of technology - *who made it, what for* - taking into account possible new senses - *how to deal with technology, how to articulate it with everyday life, what boundaries to establish, regarding the real demands and the demands that technology is imposing on us.*

Without praising technology, deifying it, but also without, above all, fearing it, the researchers of the Group Cibernética Pedagógica, have been developing projects, making use of complex and interdisciplinary methodology, in which the user of technology is always the subject of its apprenticeship, build in the interface communicative-technological.

In this perspective, the researches of the Group have demonstrated that the digital literacy, for example, only is effective when technology and its potentialities dialogue with the educating world and are incorporated to it, acting in the way of giving it the power to the everyday combat for its rights, against inequalities that promote exclusion.

Therefore, the work achieved by the Research Group CNPq Cibernética Pedagógica, line up its researchers with the studies of the critical

philosophers that, far from succumbing to the paralyzing technophobia, offer concrete alternatives of intervention, consolidated in the undeniable democratic potential of the advanced technologies of information and communication, to proceed to the effective accomplishment of human utopias.

3. Final Considerations

More than allowing access, almost generalized, to those technologies, it is left for the scientific and educational practice to promote the understanding and the appropriation of its languages and uses, with the intention of overcoming the excluding character with which they still perform in our societies.

It is considered, so far as, the possibilities of a reflective action in today's and tomorrow's technological society, without surrendering to the slavery of technique, seeking the ultimate aim of education in our times and the times to come, well-founded on the growing and inevitable development of technology, but not to its service...

4. References

- CURY, Lucilene. Reflexões sobre o papel da universidade face à tecnociência, in <http://www.portcom.intercom.org.br/pdfs/42083950524220619739063406153615432038.pdf>
- HABERMAS, Juergen. Agir comunicativo e razão destrancendentalizada. São Paulo: Tempo Brasileiro, 2002.
- MARCUSE, Herbert. Algumas implicações sociais da tecnologia moderna. In: KELLNER, D. (Ed.). Tecnologia, guerra e fascismo. São Paulo: Fundação Editora da UNESP, 1999.
- MCLUHAN, Marshall. Os meios de comunicação como extensões do homem. São Paulo: Cultrix, 1969.

MORIN, Edgar. Ciência com Consciência. Portugal: Publicações Europa-América, 1994.
MORIN, Edgar. Meu Caminho/Edgard Morin; entrevistas com Djéname Karek Tager. Rio de Janeiro: Bertrand Brasil, 2010.
NASCIMENTO, Evandro (org). Jacques Derrida: pensar a desconstrução. São Paulo: Estação Liberdade, 2005.
SASSEN, Saskia. Sociologia da Globalização. São Paulo: Artmed, 2010.

5. Links to the projects of the Group Cibernética Pedagógica:

<http://www3.eca.usp.br/sites/default/files/odainai/GT%2007%20-%20ODAINAI.pdf>

<http://www3.eca.usp.br/sites/default/files/form/cpedagogica/acornredecom2010cury.pdf>

<http://www.tecsi.fea.usp.br/contecsi/arquivos/docs/8CONTECSI.PDF>

<http://www3.eca.usp.br/sites/default/files/form/cpedagogica/CONFIBERCOM%20AE%202011.pdf>

<http://www3.eca.usp.br/sites/default/files/form/cpedagogica/Projeto%20II%20PORTLAB%20A%20Digital%20Art%20Model%20%20Atualizado%20em%2010-05-12.pdf>

<http://www3.eca.usp.br/projetos/projeto?sid=3318>

<http://www3.eca.usp.br/projetos/projeto?sid=1875>