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An Overview of Digital Media in Latin America

Carlos Arcila Calderón, Mabel Calderín & Cosette Castro (Eds.)

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Contributors

Carlos Arcila Calderón

Lecturer at Universidad del Rosario (Colombia). Director of the Anuario Electrónico de Estudios en Comunicación Social "Disertaciones". PhD in Communications by Universidad Complutense de Madrid and Master in Journalism by Universidad Rey Juan Carlos. He has been a lecturer in Universidad de Los Andes (Venezuela) and in Universidad del Norte (Colombia), associated researcher at the Universidad Católica Andrés Bello (Venezuela) and visiting lecturer at Universidad Nacional de Educación a Distancia (UNED) (Spain). Currently is the head of the international research group "Digital Communication, Networks and Procceses" of the Latin American Association of Communication Research (ALAIC). His main research topics are digital media and social uses of technologies.

Mabel Calderín

Has a degree in Library Science and has specialized in Digital Documentation. Currently is the Director of the Cultural Center "Padre Carlos Guillermo Plaza sj." and the Central Library of the Catholic University Andres Bello (Venezuela). Head of the Research Program titled Mass Media Communication and Culture: Documental Information Systems. Responsible for Saber UCAB, institutional repository. Member of the Editorial Team of the academic journal Temas de Comunicación. Director for InveCom (Venezuelan Communication Researchers Association), where coordinates Digital and Cyber Journalism Workgroup (GT-05). Vice-coordinator for ALAIC'S GI1 Research GroupDigital CommunicationNetworks and Processes. Has a Master Degree in Information Systems.

Cosette Castro

Postdoctoral Studies in Communication for Regional Development – (Unesco/UMESP Cathedra, Brazil) (2011). PhD in Communication Studies (UAB-Spain, 2003). Lecture in Communication – Universidade Católica de Brasília (UCB), Brazil. Coordinates the Digital Content Working Group for the Information Society in Latin America and the Caribbean – eLAC2015 Plan. Vice coordinator of the Digital Communication Research Group of ALAIC. Wrote more than 60 published articles on digital communication in the following languages: Portuguese, Spanish and English. Received the National Award Luiz Beltrão (INTERCOM, Brazil) for Innovating Research in 2008. Consultant of World Bank, Brazil Communications Company (EBC) and United Nations Program for Development (UNPD).
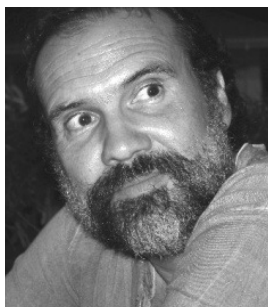
Luis A. Núñez

Doctor Degree in Physics from the Universidad Central de Venezuela (Caracas-Venezuela 1989) Full Professor of Physics at the Universidad de Los Andes, Mérida-Venezuela. Director of Information and Communication Technologies, Universidad de Los Andes (1995-2009), Director of the Centro Nacional de Cálculo Científico Universidad de Los Andes (1997-2009). Member of the Board of Directors Centro Nacional de Tecnologías de Información, CNTI, (2003-2006) Full Professor of Physics at the Universidad Industrial de Santander, Bucaramanga Colombia. Manager of Academic Relations of the Latinamerican Cooperation of Academic Networks. He has also been involved in several European, Regional and National Projects on ICT and e-research: Bioinformatics network for Latin America and the Caribbean, (LACBioNet), Iberoamerican Bioinformatics Network, Alfa Program High Energy Physics Latin American-European Network (HELEN), E-Infrastructure shared between Europe and Latin America (EELA), E-Science Grid Facility for Europe and Latin America (EELA2), Grid Initiatives for e-Science virtual communities in Europe and Latin America (GISELA), Virtual Atomic and Molecular Data Center (VAMDC), Large Aperture Gamma Ray Burst Observatory (LAGO) , Centro Virtual de Altos Estudios en Altas Energias (CeVALE2), Programa de Fomento al Uso de Redes Avanzadas en Latinoamérica para el Desarrollo de la Ciencia, la Tecnología y la Innovación CLARA, e-CienciAL, (OEA – CLARA FEMCIDI)). He is author/co-author of 60 scientific articles in the areas of Physics and ICT published in international referenced journals and more than 65 proceedings of international conferences.

Ysabel Briceño

Journalist on scientific and technological issues. She is a member of the National Center for Scientific Computing at the University of Los Andes (www.cecalc.ula.ve) researching in science-society communication. She has been devoted in recent years to scientific communication and is currently pursuing a Doctorate in Human Sciences, dedicated to investigate the information society. She has taught at the University Cecilio Acosta, Merida (Venezuela) campus, courses in Scientific Journalism, Information Technology and Communication and Electronic Journalism. Since 2008, she have been part of the dissemination and outreach of some regional projects (GISELA Project: http://www.gisela-grid.eu/ – LAReferencia:http://lareferencia.redclara.net).

Jorge Hidalgo

Jorge Alberto Hidalgo Toledo. Master of Arts and PhD candidate in Applied Communication from Universidad Anahuac. President of the National Council for Education and Research of Communication Sciences, CONEICC. Chair in Innovation in Media Content Research for Televisa and Holder of the Chair-Anahuac FISAC communication for accountability to the consumer. Researcher at the Research Center for Applied Communication (CICA), in the School of Communication at the Universidad Anahuac. He is currently Coordinator of the Bachelor of Communication, in the School of Communication in Universidad Anahuac. He is coauthor of the book: Vital Sign: Strategic Communication for Health Promotion (2011) and Mass Communication in Latin America: Culture and media literature (2005). He has authored over a dozen articles and book chapters in national and international publications related to new media, Internet and information and communication technologies.

Henry Rubiano Daza

I am a Social Communicator and Journalist; specialist in University Teaching; Master in History at La Universidad Nacional of Colombia and PhD candidate in Social and Human Sciences at the Universidad Javeriana. For over 20 years I practice journalism in Huila (Colombia). Since 14 years ago I am a university professor and since 2006 I am Director of the Research Center at the Cooperative University of Colombia, Neiva. In 1997 and 2000 I was awarded with the Regional Award for Journalism "Reynaldo Matiz" in researching. On October 26th, 2004 I obtained the National Prize of Journalism "Simon Bolivar" in the category of best news coverage. I am currently a Research Group Leader of Communication to the Development of Huila, COMDEHUILA, recognized by Colciencias, which has some articles and research books and international papers.

Gisela G. S. Castro

Gisela G. S. Castro is a professor and former coordinator of the Postgraduate Studies Program on Communication and Consumption at ESPM, São Paulo, Brazil. PhD on Communication and Culture, she majored in Psychology at the Federal University of Rio de Janeiro (UFRJ), her home town. She is one of the editors of the well-ranked academic journal Comunicação, Mídia e Consumo; counselor and former director of ABCiber (Brazilian Association of Researchers on Cyberculture); member of Intercom (Brazilian Society of Interdisciplinary Studies on Communication); leader of CNPq research group Communication, Consumption and Entertainment (GECCO). Her main research interests are communication and consumption; digital culture; subjectivities; entertainment. Visiting Fellow at Goldsmiths College, London, 2014.

Paulo Cesar Castro

Graduated in Journalism, master and doctorate in Communication and Culture at the School of Communication at the Federal University of Rio de Janeiro, where he is teacher since 2004, having coordinated the Publishing course. Beyond experience in daily newspapers, including as editor of Economics, he was editor of the Brazilian Press Association website, headquartered in Rio de Janeiro. In his current research, he aims to assess the changes in journalistic practice from the internet and how online collaborative journalism may constitute a new area to exercise of citizenship. He teaches subjects like journalistic storytelling, graphic design books, e-books and production for internet. He is also interested in semiotics and discourse analysis.

Natalia Raimondo Anselmino

Natalia Raimondo Anselmino is a researcher at the National Scientific and Technical Research Council of Argentina (CONICET) and is a member of the academic comitee of the Mediatization Research Center (UNR). She has a PhD in Social Communication at the National University of Rosario (UNR, Argentina) and, since 2005, she is a teacher-investigator in the same university. She is also a teacher at the Interamerican Open University (UAI). She does research work in the semiotics field about mass media, focusing on the press.
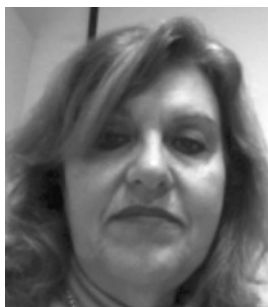
Ana María Casnati Guberna

Ana María Casnati is professor of Flor de Ceibo Project, Universidad de la República, Uruguay, Master in Education Technology (CLAEH) and PHD student in the Multiinstitutional and Multidisciplinary PHD in Dissemination of knowledge (DMMDC) based in UFBA.

Claudia Ribeiro Santos Lopes

Assistant Professor at State University of Southwest Bahia (UESB), campus Jequié, based in the Department of Chemistry and Exact Sciences (DQE); M.Sc. in Computer Science from the Federal University of Pernambuco (UFPE), and PhD student in the Multi-institutional and Multidisciplinary PhD in Dissemination of Knowledge (DMMDC), based in FACED/UFBA.

Dante Galeffi

Associate Professor III at Federal University of Bahia (UFBA)., based in the Faculty of Education (FACED); Permanent Professor of the Postgraduate Program in Education at UFBA; Permanent Professor and coordinator in the Multi-institutionaland Multidisciplinary PhD in Dissemination of Knowledge (DMMDC), based in FACED/UFBA; member responsible for the study group Epistemology of Education and Pedagogical Practices.

Hernane Borges de Barros Pereira

Hernane Borges de Barros Pereira completed his doctorate in Multimedia Engineering at the Universitat Politècnica de Catalunya in 2002. He is currently Full Professor at the Department of Education at the State University of Bahia and Associate Professor at the SENAI CIMATEC. He lectures in the Graduate Program in Computational Modeling and Industrial Technology and, also, in the Graduate Program in Knowledge Diffusion. He serves as an ad-hoc consultant to the Brazilian Ministry of Education. Professor Pereira main interests in the fields of science, information technology and innovation lie in the areas of social and complex networks, diffusion of knowledge, software engineering and human computer interaction, through computer modeling techniques.

From the publisher

The present publication represents at least three things: firstly, a case of British – Latin American social science communication and a contribution to the growing literature of studies of the emerging digital economy and its many ramifications; secondly, it has provided an opportunity and a catalyst for *VISTAS: Education, Economy and Community. The Journal of the University of West London* to widen it range of activity into more general academic publishing under the brand of **VISTAS** University of West London; and thirdly to combine the launch of this publication as an act of the one day networking event 'Developing research networks in global science and technology' held at the University of West London (UWL), St Mary's Road campus in Ealing on Friday 28th March 2014.

This event is part of a programme of research within the Information Management group at the University of West London School of Computing and Technology (SOCAT) with Miriam Palacios – Callender (lead investigator) and Stephen A. Roberts, Thomas Roth-Berghofer and Tony Olden. The current focus of this research is a study of mobility, migration and networking in the Cuban scientific community.

The research group is developing projects looking at Transnational Knowledge Networks (TKNs) in various regions and nations and in particular on the ways in which diaspora networks can help build scientific and intellectual capital. We are currently working with research groups and communities in Spain, Argentina, Colombia, Venezuela, Portugal, Honduras, Pakistan, Tanzania and Ethiopia.

The Cuban experience is one case of a wider focus on transnational knowledge networks in science and technology. This is a model for potential developments in emerging scientific communities and diasporas elsewhere. New modes of communication are emerging in response to the digital technologies and media.

This publication is thus a timely convergence of interests. Jose Abdelnour-Nocera who has contributed the preface has leveraged his Venezuelan and other Latin American contacts to assist them in gaining wider visibility for their work in publication. VISTAS has become a brand for communication at UWL in the form of a university journal, the name of the UWL digital repository, and as a concept for encouraging research meetings and exchanges from the first VISTAS interdiciplinary colloquium in June 2012 to the present meeting in March 2014. The opportunity to make another Latin American link comes from our work on the Cuban scientific diáspora which has much in common with other scientific diásporas all of which are being shaped by the digital technologies and communication.

An overview of digital media in Latin American is thus a focus and a contribution to emerging debate, international exchanges and the building of global scientific communication as a contribution to development.

Dr Stephen A. Roberts
Associate Professor (Information Management)
School of Computing and Technology, University of West London.

A note on the publication

The qualities, integrity and style of the editors and authors of the manuscript have been conserved in this collaboration of Latin American intellectual capital and British university publishing. UWL and VISTAS are providing the means and the 'wrapper' to assist in this project of international publishing. It is being made available as an open access document subject to the conditions noted elsewhere in the preliminaries to this volume.

The editor and publishers of VISTAS are pleased to provide this service and acknowledge the opportunity and support from Dr Carlos Arcila Calderón and his team of contributors. Together we are pleased to present this product of individual and institutional collaboration.

Dr Stephen A. Roberts & Dr Carlos Arcila Calderón

Preface

It is an honour as Venezuelan academic resident in the United Kingdom to open this volume, which provides an overview of digital media in Latin America. This compilation of essays edited in a coordinated effort by Carlos, Mabel and Cosette is a unique opportunity for a glimpse into the forms and perspectives that drive and are driven by digital media in this region of the world. The fact that an English version of this book has been produced offers the Anglophone world with a window of access to regional scholars' perspectives and ways of making sense of the opportunities and issues surrounding digital media in Latin America.

The editors and authors of this book are connected by common interests and an on-going discussion in the Working Group on Digital Communications, Networks and Processes of the Latin American Association of Communication Researchers (ALAIC). As it will become evident in the different essays, social and digital inclusion are pivotal points of the debates that emerge from the different perspectives offered in this volume. Despite the different levels of access to communication and technological resources across the region, it can be seen how Latin Americans use a full array of devices across different platforms to contribute to and access digital content.

Theories of the information society developed in the 70s and 80s highlighted the power of communication media to impose ideological frameworks through 'consumption' of the content distributed in those channels. There were concerns on the dilution of critical thinking in societies dominated by mass media leaving few, if any, spaces for interaction and dialogue. When access to the internet became a reality in Latin America in the 90s, scholars like Manuel Castells in his 1996 book 'The Network Society', could not see the how these new digital spaces would eventually empower Hispano-Americans to create content in a dialogical way. At the time, he wrote that since computer mediated communication was to be culturally, educationally and economically restricted for a long time, its most important cultural impact would be the reinforcement of cultural dominant social networks leading to an increase in their cosmopolitan and globalised component.

The perspectives and accounts reported in this edited book about digital media in Latin America are in clear contrast to Castells's view at the time: they show how several sectors of society have been creating and using digital media with different objectives. For instance, it is interesting to see how digital terrestrial interactive applications have been developed on open source platforms. Through these platforms, we can see various types of content creators for communities mainly used to audio-visual content and with limited Internet access, like the Brazilian case study reported here.

The role of social media in Latin America as an interactive consumption process, where relationships with brands are the result of a co-construction rather that unidirectional mass media campaigns, is another interesting topic discussed in this text. And it is this idea of bottom up creation and collaboration that is a constant theme across the different chapters, as it can be seen when discussing online collaborative journalism. Another important asset of this compendium is highlighting the role of digital media and corresponding social networks in scientific and educational activities where the creative appropriation of technology takes place and with a Latin American flavour.

In spite of the positive views on digital media in Latin America, the book also presents critical accounts of how the value of regional journalism and print media is at risk as a consequence of trying to be up to speed with globalised views of digital information exchange. This is actually a very good point as it exposes some of the negative implications that tend to be missing in discourses of computer mediated communication research.

All in all, this edited collection invites us to think in different ways about how digital media has been embraced by Latin Americans for Latin Americans. The voices we can listen to in this volume reflect the genuine desire of this continent to capitalise on digital media as a vehicle for our development and the expression of our idiosyncrasies and cheerful way of life.

Dr. José Abdelnour Nocera
Associate Professor in Sociotechnical Design
University of West London

Editorial introduction

Interest in Digital Communication does not happen by chance. Research and studies have been considerably increasing in Latin America and the Caribbean, leading the passage from analogue to digital. Creative industries – including digital and entertainment content – are considered by consultants Price Waterhouse Coopers – PwC (2011), the fastest growing space worldwide and the one with the largest growth in 2013. Whether in Europe, the US or Asian countries, the creative industry is heavily featured based on the idea of intellectual property and closed codes. In Latin America, developing countries and their populations do not earn enough wages to buy entertainment content all the time: thus the success of digital content in open codes and movements such as CopyLeft or CreativeCommons.

The existence of a creative industry model for Latin America, with emphasis on social and digital inclusion, is one of the topics of discussion of the Working Group on *Digital Communications, Networks and Processes* of the Latin American Association of Communication Researchers (ALAIC), because it is necessary to consider studies and research with a regional perspective, beyond the models imported from other countries. Researchers involved in this Group study computers – there is a significant number of studies dealing with computer assisted reporting, online journalism and content and the information circulating on the net – but they also analyze public policies for different technological platforms. Among these materials platforms (Castro, 2011) are cell phones, network video games, digital cinema, open digital TV, pay TV, IPTV, digital radio, or tablets. Furthermore, there are also the specific digital contents circulating in these devices from the Internet connection, considered an immaterial platform (Castro, 2011), which allows the circulation of different digital content for one or more gadgets.

Although computers do not reach even 50% of the Latin American and Caribbean regions, the population of the countries within the Region who finally manage to connect themselves, develop digital content for different platforms, communicate through short text messages , are present in social networks and are positioning themselves with increasing participation. If on the one hand, there is a lack of broadband in Latin America and the Caribbean, on the other people seek alternative solutions to participate, either individually or collectively. The number of people interested in the topic of digital communication, networks and processes, is also increasing whether for conducting research or teaching practices and / or alternative solutions, closer to the reality of the countries of the Region.

These considerations are just part of the discussions that we incorporate in this compilation text called *An overview of digital media in Latin America*, and were a direct result of the discussions at the XI ALAIC Congress held in Montevideo (Uruguay) in May 2012, under the newly created Group on *Digital Communications, Networks and Processes*. The Group, which has somehow been the continuation of an earlier group called the *Internet and Information Society*, received during the 2012 congress, more than 120 research papers from all over Latin America, and also from countries such as Spain and Portugal. After having selected the papers, a total of 60 papers were presented during the event, all of very high quality and being the result of research projects that were either in progress or completed, demonstrating a high degree of commitment and awareness among academics of the Region regarding the subject.

The book you hold in your hands (or have on your screens) gathers and articulates a series of contributions that attempt to give readers an overview of the current state of digital media in Latin America. With authors from Mexico, Brazil, Colombia, Venezuela and Argentina, the chapters that make up this collection reflect the progress that, both from the technological and from the conceptual point of view, are being made for the understanding of the various phenomena that are being caused by the impact of Information and Communication Technology (ICT): from the digitization of the media (print, radio, TV, etc.) to the complex transformation of educational, cultural, entertainment and scientific research dynamics. All this, in a context where it is not only the computer (and the many devices that have emerged: Digital TV, tablets, Smartphone, etc.) which play the leading role, but the subject and its subjectivity also plays an active role in the configuration of virtual environments, especially if we consider that the so-called Web 2.0 technologies are enabling this.

The first chapter of this book, by Jorge Hidalgo (Mexico), entitled *Globalization in the Information Society*, is a reflection on digital culture in which media and especially new media, become the vehicle for the phenomenon of Information Society to be more expansive, immersive and accelerated. The second chapter is continued by Cosette Castro (Brazil) with the text *Digital and interactive content production as a strategy for development – a brief study on the Latin American experience in Digital Free-to-air Television*, which provides an analysis and an overview on the digital interactive content industry in Latin America and the Caribbean, especially in countries like Brazil, Argentina and Colombia.

The third chapter *e-Research: The new paradigm of science in Latin America*, written by Carlos Arcila Calderón (Colombia), Mabel Calderín (Venezuela), Luis Nunez (Colombia) and Ysabel Briceño (Venezuela), incorporates a theme of great relevance to scholars: the changes being experienced by the scientific world with the intensive use of ICT and increasing scientific collaboration.

Gisela Castro (Brazil) continues with *Mobilizing the consumer as a partner in social networks: reflections on the commodification of subjectivities*, corresponding to the fourth chapter. This paper discusses the role of the consumer and its subjectivity in following brands and companies through social networks. The fifth chapter, by Paulo Cesar Castro (Brazil), under the title *The mediatization of reception by Brazilian online collaborative journalism: rules and protocols to control reader' s participation*, returns to the issue of the transformation of journalism in the digital environment and focuses on the involvement of social partners in the collaborative construction of content.

Natalia Raimondo Anselmino (Argentina), in charge of chapter 6: *A contract in transition: online press and its audience*, reflects on how the relationship between readers and digital media is changing, through a study of two important Argentine online outlets. With chapter 7, *Interactivity in education: social and complex network analysis*, Ana María Casnati Guberna (Uruguay), Claudia Ribeiro Santos Lopes (Brazil), Dante Galeffi (Brazil) and Hernane Borges de Barros Pereira (Brazil), take up the theme of the impact of ICT on education, but taking into account the complex analysis of social networks and how these spaces can contribute to the success of educational networks. For his part, Henry Rubiano (Colombia) produces the eight and final chapter entitled *Media transformations for journalistic practices in regional print media due to new technologies and the implications that shape the agendas of journalists and media companies*. In this essay, Rubiano explores the relationship between printed means and their agendas, with the impact of digital media.

The sum of the chapters described above are not intended to exhaust the discussion on digital media in Latin America; on the contrary, they intend to serve as an appetizer for the international community to be aware of the discussions that are taking place in our Region. The reader can find in the references of each chapter a rich world of links to perspectives and concepts that we work with in Latin America and the Caribbean, in order to understand the rapid changes that the ICT are generating, in the media and in other areas like culture, education and social life.

Carlos Arcila Calderón, Mabel Calderín & Cosette Castro
Editors

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Chapter 1
Globalization of the information society

Jorge Alberto Hidalgo Toledo
Universidad Anahuac (Mexico)
jhidalgo@anahuac.mx

Digital culture and information society

In 1968, Peter Drucker announced the arrival of the Information and Knowledge Society in his book *The age of discontinuity* (Drucker, 1968). In this work, he pointed out how the permeation of ICTs in all spheres of life would impact markets, industry, jobs and the development of products and services. His prophetic words predicted that over half the Gross Domestic Product of many nations would be generated by the knowledge sector in the future.

Likewise, Bell (1994) indicated the arrival of a new form of production and social relationships having to do with management of information. Also Masuda (1982) supports the idea of the arrival of a new civilization, established through the use of information productivity which employs ICTs. As Lucas Marín (2000) points out, knowledge has become, "a crucial resource, a source of innovation and political action; the appearance of technocracy as a dominant elite" (p. 38).

In his work *Post-capitalist society*, Drucker (1993) admonishes that the key for the global success of Information and Knowledge Societies lies in the conciliation between the business world and the intellectual world. He asserts that "if the intellectual does not compliment himself with a manager, he will create a world in which each one does what he wants, but where no one will do anything." (p. 230)

According to Mattelart (2002), the liberalization of information economics combined with the notion of a *Global Shopping Center* developed by Drucker were core ideas present at the *European Economic and Social Summit* held in Lisbon in March, 2000. At that meeting, the European Union proposed its strategic objective of "becoming the most competitive and dynamic knowledge economy" (Mattelart, 2002, p. 128). Thus, from that time, its educational system has assumed as its mission the idea of adapting itself to the needs of the information society in order to elevate the level of employment and improve its quality. With this, economic, educational and labor policies have moved in the direction of a Knowledge Society, "transforming the Information Society into a Knowledge Society" (p. 132).

With the attention of the Information Society centered on supply and production of knowledge, several questions come to mind: Who is involved in generating this information and knowledge? What strategies have been developed for its production, promotion and consumption? What sorts of networks do they use to guarantee a global impact? What activities does it encompass? What challenges does the field of digital culture, stemming from the Information Society, face?

Globalization condition

The phenomenon of globalization has gained importance in multiple disciplines since the fall of the Berlin Wall, particularly in the fields of psychology, anthropology, philosophy, political economics, communication and political science. As of the decade of the 90s, all of these disciplines have contributed to a greater dissolution of the agricultural sector, the expansion of businesses, the emergence of global cities and the decline of nation states, and have impacted markets, culture, territoriality, national sovereignty, the geopolitics of information, the expansion of technology, the mechanization and metamorphosis of labour processes, production models, time and space, and most certainly have affected the human condition.

Saskia Sassen (2007) identifies three basic positions in her academic analysis of globalization: the first, which victimizes the State and diminishes its importance; the second, which maintains that its impact is minor and that the States continues to do what it has been doing; and the third, which upholds that the State adapts and transforms itself. The mutual exclusion of what is national and what is global is notorious in each of these theoretical positions. Nevertheless, reality has revealed that the State is the strategic space where globalization takes place, where industrial sectors are deregulated and privatized, where national functions of governance are shifted to private, supranational actors. Thus, the nation state acts as an interface between national and supranational forces.

Despite this clarification, some authors to date continue to consider globalization as a mere updating of the concept of interdependence which was popular in the 70s. From this perspective, they basically uphold that global policies are changing, that they have become vulnerable and that everything is

subject to the state of relationships – relationships and interconnectedness which can provoke a chain of world events because of their very subtle degree of interrelatedness. Nevertheless, these relationships are much older than we believe.

There have been global phenomena since the early migrations of the first hominids from Northern Africa and the trade routes of Polynesian voyagers who arrived to the coastlines of Chile, long before the trips of the great naval colonizers.

Historically, the first great wave of globalization can be identified as one which initiated with the Spanish conquerors. Their strategy involved not only maritime travel, but a cultural change. A double process of evangelization took place with these conquerors. Their ships brought with them the European world – its science, its world vision, its faith, its language, its printing presses, its books, in short – its culture and its system of signifiers.

A double evangelization took place when these same ships returned to Europe with the science, faith, wealth, food and culture of the American people. American seeds were sown and their fruit was born in Europe, Asia and the Middle East, while the European vision of the world detonated a hybrid worldview across the continent. This first wave, of a constitutive nature, could be categorized as an era of trade. This seminal phase, as it is denominated by Robertson (1992), took place in Europe between the 15th and 18th centuries, a period in which ideas of humanism and heliocentrism, the study of geography and the Gregorian calendar proliferated.

Following World War II, industrialization spread throughout the world. During the Cold War (1949-1989), capitalism, favoring the creation and development of industries in underdeveloped, agricultural and peripheral nations, was intensified. This period was marked by the struggle for hegemony. It was not until the end of the decade of the 80s, almost a century after the strengthening of the nation state, that deregulation of cross-border transactions, defense of the rights of international firms and an increase in the power of supranational organizations took place (Sassen, 2007). Regionalization operated as a movement to integrate the nation state (Ianni, 2004), and thus, globalization was devised from the top, institutionalizing a new class of laws which ended up favoring outsiders.

In the second wave, internationalization, interaction and interdependence became patent between people and countries. The size of the empire was measured in terms of territory, with the term 'global' referring to nationalization, regionalization and localization. Particularly in the 19th century, migratory movements, transnational investment and border crossings became evident. This wave of globalization is synonymous with the release and transfer of resources. One example of this strong economic relationship was felt during the Great Depression of 1929.

The third wave of globalization was accompanied by free trade agreements. The term 'globalization' in this context can be read as universalization, with a cultural phenomena spreading to all the corners of the planet. Similarly, globalization took on shades of Westernization (Europeanization and Americanization), homogenization and modernization (Aart Scholte, 2008). The criticism of colonialism, imperialism, identity crisis, dependence and interdependence of both capitalism and of national socialism became evident. The polarization of power and the world itself became apparent, and geopolitical blocs constantly expressed their tension.

Today's globalization is constricted to deterritorialization, supraterritorial relations, transborder actvities and constructing the meaning of 'transworld'. The new social dimension of globalization involves not only cultural territories, but ecological, economic, political and psychological ones as well. It is the result of a new cycle of expansion of capitalism which directly affects the models of production, government, civilization, community and identity (Ianni, 2004). This includes nations and nationalities, political systems and financial models, which rely heavily on new technologies, the creation of new products and international marketing, an international division of labor and the globalization of markets. In this new order, businesses, corporations and conglomerates are redistributed all over the world.

The globalization of capitalism has drawn a new map in which capital transcends markets and borders, political systems and national projects. Capital has been dis-ideologized. Now, *social macro* space interacts with *micro* space. Macro and micro discourses are generating maps and geographies which can no longer be measured by indicators such as longitude, latitude and altitude, nor can they be

defined by distance or territories. Places are no longer tied to territory, time or boundaries. Instantaneity, simultaneity, transworld connections, transborder relations, spacial flow, social networks (Castells, 2001), deregulation, reterritorialization – supraterritorial status has altered everything, including the way we relate to the world (Harvey, 2008).

Thus, globalization involves multi-continental (not only regional) and interconnected networks. Globalization has many dimensions which range from the economic, to the military, environmental, social and cultural. Each of these has had its own period of global expansionism which was accompanied by the generation of multi-gaps (Keohane and Nye Jr., 2008).

Globalization has transformed societies into markets. Keohane and Nye Jr. (2008), in attempts to transcend grammatical limitations, make a distinction between *globalism* and *globalization*, the former understood as a phenomenon with ancestral roots, while the latter refers to the process of increasing globalism. They revisited the works of Thomas Friedman (2007), arguing that contemporary globalization is faster, deeper, more far-reaching and more inexpensive, adding density to the networks, institutionalizing the speed, complexity and uncertainty with participation of transnationalization.

Globalization of media hyperconglomerates

In this context, the media play a key role in global interdependence and globalization of the Information Society. Their symbolic power is an invisible and institutionalized power (Bourdieu, 1990). Their framework of action is on a supranational, national and subnational level. In the arena of culture, the media are constructors of meaning and significance, constructing a social imagery, imposing representations. They are instruments of political consensus, promoting communication practices, dramatizing power, building and reinforcing communities of meaning and moral, establishing social negotiations, making differences and inequalities visible. Media, in the global context, have become key actors in social functioning (Luchessi and Rodríguez, 2007).

The speed of the flow of information beginning with the emergence of the telegraph, to the transatlantic cable in 1866, to telephone connections, to communication via the Internet, has made an exponential magnification and intensification in the volume of information transmitted. Globalization of communication, despite what many believe, did not begin with electronic media. Quite the contrary, as Thompson (2008) points out, it was initially established within the confines of a complex postal network, the first identified during the Holy Roman Empire and carried over to ecclesiastic medieval Europe. The development of the printing press in the 15th century allowed editorial publishing to surpass borders. By the 19th century, communication networks were organized systematically on a global scale. The proliferation of multiple channels and the dissemination of information favored the development of the transnationalization of media conglomerates in the 20th century.

The symbolic movement of content today is carried out on a large scale, and with global expansion promotes different lifestyles and thoughts. The appropriation within these global messages is a source of tension and conflict, since it interconnects consumers with a complex system of interaction and meaning. A new symbolic power is being processed and organized stemming from media, which far from informing and entertaining is reshaping the world and the lives of people.

The great breakthrough to modernity was the transition of means of transportation which affected the means of production. Post-modernism saw the passage of transportation to transformation of information. It corroded the signifier. It transferred the meaning. Space became fragmented, it became slippery, prickly, apprehensive, prohibitory, and now it isolates, it is corrosive, it is offshore and it excludes.

Media in the era of globalization of the Information Society are reducing time and space to nothing. The movement of information has suffered acceleration greater than that of its corpus. The cost of transporting each *bit* is reduced on a potential scale according to Moore's Law, making the increased storage capacity more evident in each cycle. Time, cost and space become indicators of the association or disassociation of the social interaction of information. This condition has led to the mediation of reality. The technological annulment of the distance of time and space has "polarized the human condition" (Bauman, 2009, p. 28).

Hyperconcentration and hyperconglomeration

Globalization is the manifestation of the triumph of capitalism on an international scale. One of its first expressions came with the arrival of the New World Order, the collapse of the global framework of the Cold War, neoliberal policies, the withdrawal of the welfare state, economic rationalism, deregulation and privatization of media, the installation of the market as a vehicle for social distribution, the mobility of people across borders, the cultural diaspora, adaptation and hybridization, the internalization of cultural influences, natural immigration programmes from the colonies to the core countries, the critique of great narratives, the extreme concentration and integration of property, relativism, post-modernism, global brands, global consumption, homogenization and cultural synchronization. This is represented by supra-national organizations, large conglomerates, international alliances, commercial trade, world-regional institutions, non-government organizations (NGOs), the debacle of the power of the nation state (Sinclair, 2000).

Globalization of communication, the installation of a global flow of people, technology, money and ideas came along with globalization. Indian anthropologist Arjun Appadurai (1990) considers the appearance of five new landscapes as the result of the de-territorialization and geolocation of the new global order:

1. **Ethnoscapes (landscapes of people)**
   Movement of people, immigrants, tourists, refugees, exiles and guest workers.

2. **Technoscapes (technological landscapes)**
   Flow patterns in information and communication technologies, multinational capital investments.

3. **Finanscapes (financial landscapes)**
   Economic flow and transfer of capital, speculation, foreign currencies, equities and commodities.

4. **Ideoscapes (landscapes of ideas)**
   Ideology which carries media content.

5. **Mediascapes (media landscapes)**
   Flow and new structures in the production, distribution and marketing of content and information.

These landscapes developed surpassing the nation state. Especially the articulation of media landscapes and the ecology of media, which is more cohesive than ever. The forces of neoliberalism, privatization and deregulation coupled with the flow of capital have given this global order power. And, even though global companies appear to be less centralized, they are tightly integrated.

It is necessary to look at only ten firms which dominate the oligopoly of global media. American productions, particularly movies and television shows dominate the screens of the world. Their interests impact the music industry, film, television, publishing and the digital industry. Their logic of expansion is executed through regional companies, strategic, international alliances or absolute acquisition.

The three largest media empires are American. In terms of the *Theory of Electronic Colonialism*, the American media empires and their extensive advertising networks determine the tastes, values, customs, history, culture and language of the world.

According to the *World-System Theory*, American activities in semi-peripheral countries, which have extensive and accessible markets with high returns, illustrate the model that explains the wide range of economic activities undertaken in tax havens. Media empires establish relationships with other countries through product lines, advertising and commercial television stations, radio and newspapers. They can operate on a global scale since they have access to language and fiscal and capital resources given that the chains prefer American content and have access to human talent.

The market system works through advertising and commercialization of products. A global television system emphasizes music videos, news, sports, children's shows and sales. On the other hand, the market undergoes rapid changes which are the result of alliances, mergers and acquisitions. The digital revolution is eliminating technological barriers which divided telecommunications, telephone systems

linked to computer systems and information industries. In their book *The Global media: the new missionaries of corporate capitalism*, Herman and McChesney (1999) classify global actors into three major groups:

1. **The Dominant Players**
   Which are highly profitable and globally integrated;

2. **The Lead Actors**
   Which could dominate if they were to establish necessary mergers and acquisitions as part of their goals and strategies;

3. **Second Level Actors**
   Regional conglomerates or those belonging to niches.

Today, global conglomerates have a progressive impact on culture, particularly in countries which previously had a corrupt media system. Media giants have become significant beneficiaries of the current social structure. American cultural imperialism is evident given the high concentration, commercialization, homogenization and globalization of its media. The global media system is synonymous with expansion of commercial and corporate interests and values. Hypercommercialism and corporate control is implicit in the bias of the media content. Consumerism and individualism are becoming a part of civic values. The best journalism is oriented, as Herman and McChesney indicate, to the financial class in order to meet their needs, while journalism for the masses comes from the media giants. Censorship in free societies has become more sophisticated (McChesney, 2003).

Globalization itself suggests that there is no purpose or control, that the action of intentional dissemination which was behind cultural imperialism is moved more by the logic of capital than by an ideological logic. However, globalization can be explained within the same story of the geometry of power, and the result of the influence of capitalism.

Thus, globalization is a dialectical process between global and local spheres, between culture and capital, between individuals and identities, between the implosion of the Third World within the Developed World, between the center and the periphery, between corporations and the public sphere.

Media, as well as culture, have become denationalized and deterritorialized, and with this, a new world map of the market is being drawn (Martel, 2011). Local space is being displaced by a flow of space (of capital, technology, information, organization and images). Industrial capitalism is now information capitalism. The new industrial space is that of *bits*. Nodes are no longer megacities, but rather megaplatforms. The world can be viewed from screens, and life can be lived from screens as well. Space expands as screens interconnect. Everything is becoming miniaturized, and turned into entertainment. We are rampaging consumers. The age of the communication pyramid is declining as we face the era of the interactive subject, of individualized communication, of self-production, of personalization, and of interconnectedness which is light and open (Lipovetsky and Serroy, 2009).

Globalization of media and the Information Society brought with them immediacy, speed, interactivity, inter-operability, decentralization of messages, hypertechnological communication, fragmentation of images, excessive aesthetics, an overabundance of information, tourist zapping, self-centered individualism, and a sensorial, psychologized and sensualized well-being.

The battle of the Information Society is a content war which is being waged through media and communication. Its field of action is culture seen as a market, as *soft power* territory. Dominant and emerging countries are seeking to secure control of images and information. While on the one hand, globalization has accelerated the Americanization of culture, the flow of information has also shifted and become regionalized. Thus, it is a hybrid, a mixture. Creative industries with capital are dominant, hip capitalism (global, concentrated, technological, complex and decentralized), operating with excesses (Martel, 2011).

Today, globalization and the hyperindustry of culture transfer change symbolically, through time, representation, knowledge and power. This symbolic production, distribution and reception is instituting a new kind of meaning. We are more digitalized, more mobile, more interconnected, more

hyperreproducible and more multicultural today (Cuadra, 2009). Active globalization merges content of the masses, niches, the undifferentiated, those cut of imperialistic cloth, and the regional. The geography of content of the 21st century is the meta-narrative of hypermodernity.

Two-way globalization

Globalization from below emerged as the result of globalization from above in which ordinary citizens and civilians became hyperconnected, confronting economic, political and transgovernmental interdependences. The intensity with which these new connections occur incorporates a novel factor within globalization which took place within the confines of the Information Society.

Globalization of the Information Society implies the multifaceted modification of human practices, of economic, labour and commercial dimensions as well as the flow of information. Culture and its manifestations have lost purity and have become part of hybridization. Borders have been diluted, space has been relocated, *unequal mobility* can be noticed in physical and digital migration. Today, we are hyperconnected nomads, Bedouins traveling through digital neighborhoods. We are facing the end of geography as announced by O'Brien (1992).

Public space is losing its capacity to redefine existence, or add value and meaning. While on the other hand "production centers of meaning and value have become extraterritorial" (Bauman, 2009, p. 9). Decision-makers in the global context are the investors, shareholders and brokers – the elite who won the space battle. Their power surpasses territoriality; it has become weightless. It does not recognize distance, given that it exceeds it, despite the fact that it remains in the same place. Power has no territory, it is ethereal, omnipotent and omnipresent – it is hyperconnected.

The industry in this hypermodernity has modified its very logic of action. Nowadays, its production is ephemeral, volatile, temporary, precarious and unregulated, so as to produce what is attractive, seductive and tempting. The key of desire is the key of consumption. The extreme, the compulsive, the obsessive, the messy and the chaotic proliferate as exaltations of hyperindividualism (Lipovetsky and Charles, 2006).

In the early Modern Age, ideological-political mediation was felt in media, technology, economy, culture and consumption. In the later Modern Age, according to Giddens, Beriain and Sánchez Capdequí (1996), productive capitalism moved to an economy of consumption and mass communication, from a rigorous society to a fashion society.

In the third stage of the Modern Age, everything switched from *post* to *hyper*. People are living in the fever of the present. Postmodernism coincides with the emancipation of individuals, with a Utopian goal, with a mixture of frivolity, anxiety, euphoria, vulnerability and entertainment (Lyotard, 1994).

Today, we are in the fourth phase of Modernity: a Modernity more globalized, excessive, exaggerated, overreaching, extralimited, hyperrealistic and hyperbolistic. In this new map without borders, pre-Modernity coexists with hyper-Modernity. If the agricultural era had as its axis collection, the industrial era production, then the information era is centered around consumption –a materialistic fever of instant gratification. In this rupture with time and space, Lipovetsky (2006) points out that hype-Modernity is not "structured by an absolute present, but rather by a paradoxical present which does not allow exhuming or rediscovering the past" (p. 90).

It is in this hyper-Modernity, in the heart of this global environment where life itself loses its weight, its structure and its boundaries. Globalization has become the expansive arm of hyper-Modernity and the consumer society.

Digital culture and globalization of the information society

To speak of digital culture is to shed light on the phenomenon of globalization of the Information Society. In this context, globalization of digital culture takes us back to interconnections that are more extensive, immersive and rapid. The direct impact of this accelerated interdependence is a *continuum*

between what is local, national and regional (Held, McGrew, Goldblatt & Perraton, 2008). This is a global interaction, an accelerated interdependence, greater action at a distance, the comprehension of time-space, the rapid spreading of ideas, goods, information and capital.

Globalization of digital culture is the direct and indirect result of the global extension of networks of relationships and collaboration, the intensification of interconnectedness and the acceleration of the global flow of information across networks and communication vehicles whose messages impact the world order, thus affecting: 1) the global interconnectedness of decision-making, reshaping the agenda confronting governments, corporations, groups and citizens; 2) the structure of institutions to expand horizontal and vertical integration making up the superterritorial hypercongolerates (Aart Scholte, 2008); 3) the provision of social dispositions and their distribution, generating multiple gaps (gender, age, cognition, socio-economic, etc), and; 4) the forces which stir social fabric, governments, agencies and people.

The dimensions of globalization of Information Societies can be condensed into:

1. **Infrastructure**
    Large networks of real-time communication and intense interconnections between social actors and institutions.

2. **Institutionalization**
    Global infrastructure modifying the practice and culture of organizations to expand the exercise of power.

3. **Stratification and Asymmetry**
    Generation of new social divisions and patterns of stratification.

4. **Modes of Interaction**
    Modification of the logic of cooperation, coercion and competition between individuals and institutions.

In this global environment, the world re-acquires its roundness, its spherical condition which helps circulate messages from micro to macro, a McLuhanian conception of the global village. This retro-tribal vision can be seen from the small screen. The world is a small shopping mall, where everything is concentrated and everything is linked through the subtle fabric of networks: media, business, educational, economic, political and ideological. This hypermodernity seizes the global context, with communication responsible for making behavioral patterns and hegemonic values almost ubiquitous. In this post-industrial and telematized context (Bell, 1994), the conflict of identities and the resulting mixture of a cultural consumption and media hyperindividualization resounds. Communication transcends cultural contexts. The world is one and at the same time it appears to be many. The monoculture which derives from this is part of the great dilemma which needs to be solved.

Social capital in the context of the knowledge society is economized through an industrial triad: *The Creative Industry* (production of knowledge); *The Cultural Industries* (distribution of knowledge) and *The Entertainment Industry* (consumer knowledge) (Noya, Rodríguez Camaño and Romero Ramos, 2008). Information and contents have become the kings.

Technology has become the communicative vehicle. Old highways have become the root metaphor of the super highway of information[1]. Digital networks are the enclaves from which the industry, production, distribution and human socialization have been reorganized. Media industry monsters see deregulation of the network's telecommunication services as a paradise.

The figure of the *prosumer*[2] competes to abolish public and private monopolies. Nevertheless, private enterprise is the great motor of the Information Society[3]. The citizen as a sovereign consumer is the result of the inclusion of freedom of commercial speech as a fundamental human right ensuring universal democracy. The public, private and business spheres converge with the civic sphere and axiology. Communication wants to ensure a universal service.

The digital key focuses not on concentration and industry, but rather on the subject and access. Development is measured in nodes, bandwidth, participation and users. The gaps are not economic

or social, but gaps in connections and digital literacy.

The network has been proposed as a tool for development, yet paradoxically it reveals greater social imbalances. As noted by Trejo Delarbre (2006): "Access to information and communication technologies (TIC) has become a new scenario to reproduce existing arrears in nations and areas with less financial assets. Despite a decline in international prices for computer equipment, buying a computer and connecting it to the Internet has become substantially more expensive in poorer countries than in developed nations." (p. 51)

The restructuring of enterprises has transformed the world into one immense factory. The productive forces and production relations have been totally registered within the mold of capitalism.

Harvey (2008) in his text *The condition of postmodernity* delves into the mode of regulation and the regime of accumulation, i.e., the legal and social norms which guarantee the production, reproduction and distribution of economic output, consumption and accumulation. The Ford Model of work organization and production that was adopted in the industrial era was replaced by the Toyota Model, which was more flexible and responsive to global market requirements combining productivity, innovation and competition (Harvey, 2008). In both, the understanding of time-space is evident in the reorganization, storage and saving of time.

Electronics, telecommunications and new media directly affect the business world, streamlining and deterritorializing ideas, people, products and services, hence, a return to Harvey's analysis and the proposal of the categories of Amazonism and Facebookism to account for the transformations arising from the appearance of these two new models of production, business and communication.

There is a loss of meaning with such a rapid movement of goods, services, content and images. The relative freeing of the individual from social structures is sought, the individual is extracted, distanced from time and space, and from reflexivity. The historic transformation of productive rationality has mutated (See Table 1).

Table 1
Historic Transformations of Rational Productivity

Fordism	Postfordism Toyotism	Metafordism Amazonism	Hiperfordism Facebookism
Production			
• Manufacturing • Series • Standardization • Economies of Scale	• Manufacturing • Batch or Set • Differentiation • Economies of Scope	• Manufacturing on Demand • Personalization • Long tail Economics	• Crowdsourcing • Socialization • Free Economy
Work			
• Single Task • Minimum Training • Discipline	• Multitasking • Much training • Responsibility	• Hyperspecialization • Long Distance Training • Social Responsibility	• Multitasking • Collective Intelligence • Collaborative Work • Corporate Ethics
State			
• Regulation • Welfare State	• Deregulation • Privatization of Welfare	• Self-Regulation • Welfare Markets	• Co-Regulation • Socialization of Welfare
Ideology			
• Mass Consumption • Modernity • National Culture • Identity • Nation	• Individual Consumption (Lifestyle) • Postmodernity • Global • Identity crisis • Post national	• Low Consumer Demand • Trasmodernity • Global • Hybrisized • Diaspora	• Hyperconsumption • Hypermodernity • Transspatial and Transtemporal • Multiple identities • No-Nation

Source: Author based on Harvey (2008)

The era of intangible flow has arrived; hypermodernity, hyperconsumption, life in excess and hyperconglomerates travel the networks. What matters is not access, but rather participation, the co-construction of meanings. The market grows to the degree that *prosumers* generate relevant content for consumers themselves. The economics of participation is the economics of *crowdsourcing* [4], the great models of development and business no longer come directly from corporations but rather from individuals. The network itself has jumped to a logic of 2.0 to open communities driving collaborate efforts, free access, open sources and the technological empowerment of citizens.

In this environment, everyone has the same opportunities for participation and social construction. The collective creation of meaning is a communicative action in this era. Motivation is the hyperconnection, the formation of communities, of space for self-expression. New media appeal to the personalization of content, mobility and portability. The surfer becomes, as noted by Lucas Marín (2000): *a functional member of a community* and thus acquires this culture, which becomes his or her own.

We are in an era of multi-convergence. Jenkins (2008) says, "Welcome to the convergence culture, where old and new media clash, where popular media intersect with corporate, where the power of the producer and the consumer interact in unpredictable ways" (p. 14).

Contexts in motion

Connection is the key word of our times. Today, the world, people and objects are linked through networks, nodes and digital points of encounter. It doesn't matter where we are or what time it is. Over 850 million users intertwine their lives through Facebook; 4,000 million use cellular telephones [5] sending SMS/MMS messages, exchanging text, audio and video that summarize a particular moment in their lives; 145 million have iPods [6], 100 million blog [7] which allow them to live in a simultaneous and parallel mode at any given moment. Media itself have mutated. Today they are: disperse decentralized, accessible, monopolized, digital, corporate, hyperconglomerates. They have become associated protocols, social practices, cultural systems, communication options and triggers of social, cultural, economic and material relations.

Hypermediatic consumption is based on the ownership, commitment (*engagement*), loyalty and fidelity of new media users. Social networks such as *Facebook*, *Hi5*, *Twitter* and *Linkedin* are the heart of these new communication and socialization practices of content. Content is no longer the king —what matters is sharing; communicating is socializing, it is about following and being followed. The 850 million users of Facebook and 200 million users of Twitter are proof of the existence of a new digital continent which is in the process of being colonized. Social networks are in and of themselves a continent which is globalized, deterritorialized, in no specific place – the living example of the elimination of time and space.

Appropriation is not within technology, but rather it is in locating one's own tribe, in order to find a shared meaning. Poor quality of information adds to social poverty. Communicative relevance is within new uses, rather than in consumption. As Castells (1997) puts it, information is the new form of social organization, the new power is in the generation, processing and transmission of information, but above all, in its socialization. Communication is relocated in the community's sense of the anthropogentic bases of communication, i.e., speaking to meet others. Communication is communion.

Communication marks a radical social breakdown which surpasses users and their scope. As Wolton (2008) notes: "Every technical change or restructuring of a new market is not a rupture of a generalized economy of communication, given that an economy of communication on an individual or social level is a different technology. If technology of communication plays an essential role, it is because it symbolizes or catalyzes a radical rupture which exists simultaneously in the culture of that society (p. 38).

Some features of this digital revolution referred to above include:

- **Participation and co-production of meaning** / prosumer
- **Collective creation** / decline of the author
- **Continuous creation** / recognition of property
- **The multiplicity of interfaces** / convergence / content hybridization
- **The author delegates all responsibility to the receiver**
- **Immersion information** / access to information
- **Interactivity** / Era of real participation, not mental participation
- **The message is where the dialogue takes place**; it is a process rather than a final product
- **Freedom of expression** and experimentation

The trends pointed out by Friedman (2007) must be added to these fundamental characteristics of cultural rupture, which in his opinion have flattened the Earth:

- **Workflow software**: Computer software for work flow
- **Open-sourcing**: Free access to source code
- **Outsourcing**
- **Crowdsourcing:** Subcontracted crowds
- **Offshoring:** Moving factories to cut costs
- **Supply-Chaining**
- **Insourcing:** Including subcontractors in hiring companies
- **In-forming:** Free access to information

Internet around the World

One of the principal manifestations of the globalization of the Information Society is evident in the increase of Internet users. According to *Internet World Stats*, by the end of 2010, 1,966,514,816 users were using the Internet, implying a penetration of 28.7% (Internet World Stats, 2010). Latin America and the Caribbean showed a growth of 1,032.8% between 2000 and 2010. There are 204,689,836 Internet users in the Latin American region, which represents a 34.5% penetration (See Table 2).

Table 2
World Internet Usage and Population Statistics

World Internet Usage and Population Statistics					
World Regions	**Population (2010 Est.)**	**Internet Users Dec 31, 2000**	**Internet Users (2010)**	**Penetration (% Population)**	**Growth 2000-2010**	**% Users of the Table**
Africa	1,013,779,050	4,514,400	110,931,700	10.9%	2,357.3%	5.6%
Asia	3,834,729,852	114,304,000	825,094,396	21.5%	621.8%	42%
Europe	813,319,511	105,096,093	475,069,448	58.4%	352%	24.2%
Middle East	212,336,924	3,284,800	63,240,946	29.8%	1,825.3%	3.2%
North America	344,124,450	108,096,800	266,224,500	77.4%	146.3%	13.5%
Latin America and the Caribbean	592,556,972	18,068,919	204,689,836	34.5%	1,032.8%	10.4%
Australia / Oceania	34,700,201	7,620,480	21,263,990	61.3%	179%	1.1%
World Total	**6,845,609,960**	**360,985,492**	**1,966,514,816**	**28.7%**	**444.8%**	**100%**

Source: Internet World Stat, 2010

Mexico, in particular, is among the 15 countries with the largest number of Internet users[8], with 27.2% penetration, behind Brazil which had practically double the number of users with 75,943,600, and a penetration of 37.8%. Argentina is the third major player in Latin America with a penetration rate of 64.4% , with 26,614813 users (See Table 3).

Table 3
Internet Use in Latin America

Internet Use in Latin America					
Latin America Countries/Regions	**Population (2010 Est.)**	**Internet Users Latest Data**	**% of Population (Penetration)**	**User Growth (2000-2010)**	**% Users of the Table**
Argentina	41,343,201	26,614,813	64.4%	964.6%	13.3%
Bolivia	9,947,418	1,102,500	11.1%	818.8%	0.6%
Brazil	201,103,330	75,943,600	37.8%	1,418.9%	37.9%
Chile	16,746,491	8,369,036	50%	376.2%	4.2%
Colombia	44,205,293	21,529,415	48.7%	2,352.1%	10.8%
Costa Rica	4,516,220	2,000,000	44.3%	700%	1%
Cuba	11,477,459	1,605,000	14%	2,575%	0.8%
Dominican Republic	9,823,821	3,000,000	30.5%	5,345.5%	1.5%
Ecuador	14,790,608	2,359,710	16%	1,211.0%	1.2%
El Salvador	6,052,064	975,000	16.1%	2,337.5%	0.5%
Guatemala	13,550,440	2,280,000	16.8%	3,407.7%	1.1%
Honduras	7,989,415	958,500	12%	2,296.3%	0.5%
Mexico	112,468,855	30,600,000	27.2%	1,028.2%	15.3%
Nicaragua	5,995,928	600,000	10%	1,100%	0.3%
Panama	3,410,676	959,900	28.1%	2,033.1%	0.5%
Paraguay	6,375,830	1,000,000	15.7%	4,900%	0.5%
Peru	29,907,003	8,084,900	27%	223.4%	4%
Puerto Rico	3,978,702	1,000,000	25.1%	400%	0.5%
Uruguay	3,510,386	1,855,000	52.8%	401.4%	0.9%
Venezuela	27,223,228	9,306,915	34.2%	879.7%	4.7%
Total	**574,416,368**	**200,144,290**	**34.8%**	**1,024.9%**	**100%**

Source: Internet World Stat, 2010

Although nearly 1 out of 3 people in the world have access to the Internet, there continue to be large gaps that need to be resolved and cannot be ignored:

1. **Access:**
   Both developed and developing countries have a low penetration: Mexico 32%, Portugal 37%, Colombia 45%, the Czech Republic 51% and Chile 55%. Only three countries or regions have more than a 60% penetration: Macao 61%, the United States 78% and Sweden 80%.

2. **Gender:**
   In six countries of the World Internet Project (Chile, Colombia, Cyprus, Italy, Macao and Mexico), 8% or more men use the Internet than women. Mexico has the largest gap: 6% more men than women use the Internet; in Colombia, 15% more men than women. In only four countries is the gap 4% or less: the Czech Republic, Portugal, Sweden and the United States.

3. **Age:**
   Large percentages of people under 24 years of age use the Internet. In Mexico, 79% are between 18 and 24 years old; in the United States 42% and in Sweden 41%, with over 40% over 65 years of age. Six countries reported that 10% or less of their population 65 or older are on line (Cyprus, the Czech Republic, Italy, Macao, Mexico and Portugal).

4. **Connection:**
   In six countries, Cyprus (55%), Italy, Mexico, Portugal, Sweden (78%) and the United States the report that people do not connect because they are not interested, nor is it helpful to them. Cost is not a significant factor for not being on line. Eight countries reported at least 20% of their population was not online because people do not know how to use the Internet or are confused by technology: Macao (55% of nonusers) and Italy (37%).

5. **Contact with Family and Friends:**
   In general, Internet use has a positive effect on contact with family and friends. 30% use the Internet in order to have greater contact with their families; 40% (Chile, Colombia, the Czech Republic, Italy, Mexico, Portugal and the United States) have improved their friendships thanks to the Internet (World Internet Project, 2010).

Six great myths can be derived from these gaps:

1. **Universal access:**
   The Internet is not yet a part of the lives of thousands of people, even in technologically advanced countries.

2. **Education guarantees access:**
   Countries with high levels of education and employment and a long history of Internet and broadband use do not guarantee connection.

3. **Equity of access:**
   Even in countries that report an average of five or more years of Internet use, there is a disparity in access, principally gender related.

4. **Internet is for Adults:**
   The level of service is related to age. Usage increases with decreased age.

5. **Children need to be taught literacy:**
   Most countries tend to have aging populations who are not using the Internet. The greatest challenge is to integrate a greater number of older people.

6. **Everyone wants to be online:**
   The cost of access is not the reason why people are not connected; they are not connected because it is not relevant or meaningful for them.

Conclusion

Digital media can be seen within a centrifugal stage as well as within a centripetal phase, the first is implosive and the latter is explosive. The centrifugal force of communication has extracted man from himself, while the centripetal force seeks to unify and integrate people.

Media has massified self-expression and culture. New media are making the invisible visible; modifying rituals, morals and behavioral modes. The digital culture has forced us to move from a media-centric approach to an anthropocentric review, to new forms of socializing.

Communication is no longer circular information with tendencies to chronicle. Communication is re-thinking subjectivities and intersubjectivities. Communicative anthropology should focus on the ontology of media ecology. Undoubtedly, the history of man is the evolution of mankind's interactions, mediations and demarcations. The identity of man has been forged by the oral tradition, writing, sound, images and digitalization. Communication is the "common sensorial ground" (Martín-Barbero, 2008, p. 43) through which men get to know others and by which men become, or fail to become men.

Notes

1 This name was taken from a draft presented by former American Vice-President Al Gore in February, 1993 and reinforced by the European Information Highway Project led by President of the European Union, Jacques Delors.

2 First expressed by McLuhan and developed by Alvin Toffler in *The Third Wave*, this refers to the status of "Producer-Consumer" of the same individual who is in itself the complete circuit of communication: source-channel- medium-receiver-feedback.

3 In May, 1994, Martin Bangemann, representing the business sector, presented the report *Europe and the Global Information Society* and in February, 1995 the group of G-7 met in Brussels, producing a document entitled *Toward a Global Information Infrastructure: The Promise of a New World Information Order*. These two documents appeal to free competition and the elimination of obstacles. Global competition in digital markets is related to freedom of (commercial) expression.

4 A concept coined by Jeff Howe, referring to the generation of raw material, labor force of mass participation and problem-solving using the formula of citizen self-management.

5 Journalist Manuel Moreno reports an annual, progressive growth of 24% over the past 8 years. On the other hand, the penetration rate is expected to reach a growth of 61% (6,700 million people) during the remainder of this year, principally in countries such as Brazil, China, India and Russia (Editorial, 2008).

6 Tim Cook, Apple's Chief Operating Officer noted that in Apple's quarterly report, the sale of Apple iPhones and iPods had risen to 45 million, with 18.6 million in the category of iPod Touch and 26.4 million iPhones, 100 million of these belonging to earlier models (De-Witt, 2009).

7 With a growth rate of 15 more every second, based on Lawson (2005).

8 By 2011, the World Internet Project, Mexico Chapter, reported the existence of 40,041 million users and a penetration of 40% (World Internet Project Mexico, 2011), a number higher than that published by the Mexican Internet Association (AMIPCI) which claimed the existence of 34.9 million Internet users at the end of 2010 (Mexican Internet Association, 2011).

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Chapter 2
Digital and interactive content production as a strategy for development – a brief study on the Latin American experience in digital free-to-air television

Cosette Castro
Universidade Católica de Brasília (UCB) (Brazil)
cosettecastro2012@gmail.com

Introduction

In previous studies, I sought to contextualize the passing of the digital to the analog world from the use of different technological platforms and media convergence (Castro, 2008), taking as an example the digital and interactive free-to-air television case, which Japanese-Brazilian model was adopted in other Latin American countries like Argentina, Bolivia, Ecuador, Chile, Paraguay, Costa Rica, Venezuela, Peru, Uruguay and Brazil. Besides, I tried to analyze the need – from the field of Communication – researchers have of a more comprehensive vision of their object of study, from perspectives like transdisciplinarity, complex thought (Edgar Morin, 1991) and transmethodology (Efendy Maldonado, 2008) to understand the deep changes we are going through from the point of view of social inclusion and free audiovisual content offer to the population.

In this chapter, I analyze the latest interactive digital content industry thinking in Latin America and the Caribbean. I refer to management and economy theorists, seeking a transdisciplinary dialogue, allowing us to understand notions of innovation, development, industrial hubs and/or clusters. I focused on Brazil, Argentina, Colombia, Peru, Venezuela and Uruguay to understand the state of each country to adopt free-to-air digital television.

I consider the digital and audiovisual content industry as a strategic part of the process of innovation in Latin America. Innovation is a word derived from the Latin term *innovation*, and refers to a created idea, method or object with little resemblance to the previous ones. Today, the word innovation is used more often in the context of ideas and inventions as well as the related economic exploration, and innovation can also be an invention coming to the market. Examples of ideas, methods or objects that have little resemblance to previous patterns appear in the new digital media: digital and interactive free-to-air television, mobile phones, digital books and magazines, on-line videogames, digital radio (that enables access to not only digital sound, but pictures as well), and digital cinema, as well as internet-mediated computers, and the possibility of media convergence.

To Freeman (1986), innovation is the process that includes technical activities, conception, development, and management, and results in the commerce of new (or improved) processes. In terms of new products, interactivity in free-to-air digital television allows the audience to use the internet, or answer the field of production (companies or public channels) with their remote controls. It's important to point out that the *Ginga* middleware – layer of software that allow interactivity, portability and interoperability between the different patterns of Digital TV – is a Brazilian invention based on open source, developed in the laboratories of PUC-RJ and UFPB. It's the first technological standard developed in this country to be recognized by the International Telecommunication Union (ITU).

The mobile phones are another enhanced product turned into a completely different thing from its original version. Initially thought to be used just for mobile telephony, mobile phones today can be considered an extension of our own bodies (Castro, 2005 [1]), since it allows many different functions, like alarm clock, agenda, internet, photography, filming, voice recording, use data and text, and other activities, like the original function of making and receiving calls. Digital Terrestrial Television (DTTV) can also be watched for free through mobile phones of 3G mobile phones, using the One Seg technology, enabling the cell phone owner to watch DTTV for free, without impact in the bills.

In its turn, the videogame gears had the original version expanded to be played on-line and through different technological devices, like computers, digital free-to-air TV, mobile phones, video consoles and table, or even through all those devices at the same time. The game narratives were also extended and have different dynamics, attracting crowds of fans, more and more interested in achieving new stages of the games, challenging the own makers with narrative proposals and new levels for a game. More recently, internet-connected digital books allow the readers new ways of interaction, from buying a book on-line to participating with rates in real time, or even commenting with other readers in real time as well.

In terms of innovation, typical news from the 21th century is the so called digital convergence, where narratives and stories can be followed at the same time in different devices with internet access. Besides, narratives like "Matrix" were initially developed for different media at the same time, corresponding to the transmedia concept developed by Jenkins (2008). This happened like the Matrix trilogy presented in the movies, in the comic books or videogames, and the narrative introduced many

new characters and complexity than the movie version. In this sense, the notion of innovation exceeded the field of science and technology, and embraced Social Science, and now more and more others like culture, communication, technology itself and education, as well as a notion of creativity.

Audiovisual and digital content industries can be analyzed as a sector inside Cultural Economy, called Creative Economy [2], Digital Economy [3] or even Knowledge Economy, all proposed by researchers of core countries, including means of creating, producing and distributing goods and services using digital technologies, knowledge, creativity, intellectual stock as their main productive resources.

More than a position on the term and the most appropriate theoretical approach (culture economy, creative economy or digital economy), we need to consider the context behind, as proposed by Latour (2000), to evaluate the kind of economy for each country, to adapt it to each reality and possibility. And, starting from there, consider the Latin American and Caribbean reality and the lack of similarity between the regulation of informative, communicational or telecommunication themes, information and communication technology development, as well as technical conditions and innovation policies proposed for each country.

Currently, the amount of technological capacitated support to produce and disseminate information, entertainment, culture, distance education content, and the ones directed to citizenship, public and bank services or even environment, through many different technological platforms considerably grew. In practice, those digital services and contents are available for free or paid through different digital devices, allowing usability, portability and interactivity between many audiences, as well as media convergence. However, the majority of the population in Latin America and the Caribbean, does not possess means of affording audiovisual content, that being the reason for the low index of pay television subscription in some countries, the low attendance to movies, growing more expensive every day and restricted to commercial centers, low purchase of original CDs and DVDs, and the considerable increase of pirated products in the Region.

Context

The word innovation was introduced by the economist Schumpeter in his work *Business cycles* (1939). In *Capitalismo, socialismo y democracia* (1971), he describes the process of innovation, denominated by him as a process of creative destruction. The Austrian author locates innovation into a trade economy, where new products destroy old companies and past business models. For Schumpeter (1971), innovations could destroy well-established companies, minimizing power monopoly like that. According to the author, the reason the economy would unbalance and step into a process of expansion is the appearance of an innovation, from the economic point of view, that would considerably alter the previous equilibrium conditions.

Examples of innovations that alter the state of equilibrium:

1. **Introduction of a new good in the market**

2. **Discovery of a new production method**

3. **Discovery of a new means of merchandise commerce**

4. **Conquest of new sources of raw material**

5. **Alteration of the present market structure, like breaking a monopoly.**

Introducing a new innovation in the economic system is called by Schumpeter (1982) as entrepreneurial act, aiming to obtain profit. Innovation can also be stimulated by governments to help in the development process, like in Latin America the ending of the 20th century, particularly on ICTs.

Initially, the followers of Schumpeter's theory adapted the triple helix theory, where the development process was based on the trinomial government, companies and universities. The concept of innovation national systems, formulated by economists and managers during the years of 1970 and 1980, has

its importance because it allowed the organization, the institutional formats and financing innovating activity. But it could not significantly change the casting of involved agents in the innovation practices – especially in what concerns colleges, companies and government agencies.

This is one of the biggest criticisms of the social scientists, including Latour (2000), much like Schumpeter (1982), affirming that this theory resides in the determinism and innovating models abstraction, that need to give rise to a circumstantial and multi linear approach, not being able to accept how self-sufficient are the rational elections parameters. The social scientists contribution gains relevance when innovation is introduced to their agendas, but also for the contribution researchers like Latour, highlighting the importance for the context so the innovative practice can work out.

Starting from the innovation sociology debates – many of them counting with names like Manuel Castells – in the ending of the 20th century, there was a diversity of technical and social situations engineered beyond the walls of State, companies and universities. This diversity demands concepts and a research formula derived from social science, and started to receive special attention.

The social scientists are interested in understanding the change of course of innovation in contemporary society, allowing a change in the analytical approach. According to Maciel (2001), this change of approach included unapproachable and changeable elements of technological and social practice. In this (new focus), relationships are more essential than things, and processes overcome results and help to understand social practice. A qualitative dimension begins in the innovative practice, where models of the Schumpeter (1982) agenda were not able reach. Between those, indecision represents a key composer of the topics that have to be discussed and redefined in the passing of the analog world to the digital one.

Unlike the first 80 years of the 20th century, industrial agglomerations of the 90s showed a new economic geography[4], where the expression "industrial poles" lost strength. Starting from the notion of collective efficiency, based on cooperation, made it possible to understand the new business agglomeration dynamics (by place or sector), better known as clusters. It also made possible to understand how synergy provided by the combination of complementary competences is turning into a crucial factor to increase competitiveness.

According to Romero (2003), differently than clusters, industrial poles are restricted to the geographic location of agglomerate or an industry group. As a concept, cluster considers the participation of a joint of authors in a coordinated and ordered manner, and it can be in the same geographic location, as well as it can establish regional relationships.

In this text, I consider the notion of Local Production Arrangements (LPAs) as a synonym of clusters[5], of content production centers, and yet like an updated version of the notion of industrial poles. I treat LPAs or industrial clusters turned to innovation on local and regional dimensions at the same time (figure 1):

1. **Local in a sense of determined geographic space, making face to face interactions easy, and allowing agents to possess one or more common traits**

2. **Regional because it is about the idea of region – that could be located inside the same continent – and allows the transfer of essential knowledge between uneven regions**

3. **Different Dimension of Production Poles/Clusters/LPA**

Figure 1

Different Dimension of Production Poles/Clusters/LPA
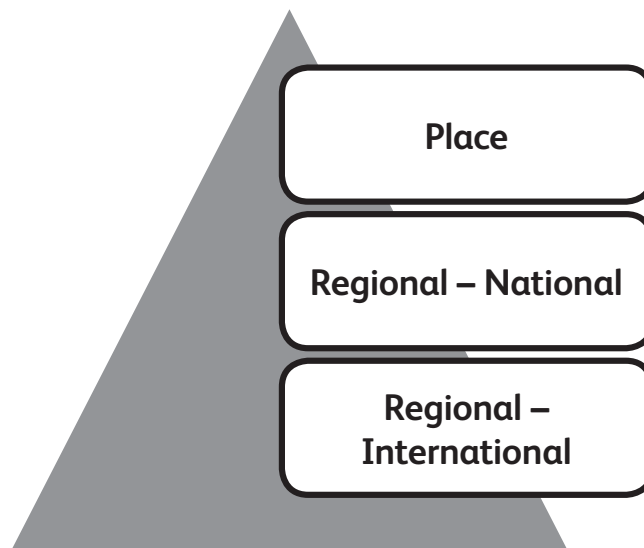
There are production poles or clusters based on production arrangements developed in the same locality, but acting and stimulating cooperative regional relationships. Those are directly related to the notion of sustainable development [6]. I consider it like Araujo Fihlo (2006: 68) does, when the notion of sustainability is "associated to the propriety of an economy in a determined geographic space has to generate and maintain comparative advantages in a continued perspective".

I would say, going beyond what Araujo Filho (2006) did, that in digital technology times, the notion of sustainability we have today allows economy development in more than one geographic space, though it emphasizes one determined space as the research, experimentation and products for market irradiator. In this sense, the physical nature should not be the only component in creating and/or expanding research, shape, and production of digital content. Formation of local and/or regional societies (presently or virtually) focused on creation of new abilities (digital and interactive) is one of the market's requirements.

The spatial nature of production poles, local production arrangements [7] or clusters help to stimulate new digital convergence and transmedia projects, able to involve a bigger number of business and institutions of the same geographic location in a virtual association along with other regions. It can also encourage creation of mini poles in different locations, starting from the utilization of information and communication technologies, increasing the power of creating professionals, multiplying the appearance of new abilities, developing digital content, and involving each day a wider number of projects.

Reflecting on economic development's located nature is not a recent field. It was already addressed by theorists in the area, like Perroux, Myrdal, Hirschmann or Friedmann. More recently, in the last years of the 20th century, economist Krugman (1998) brings the agglomeration debate again, in his effort to explain the located nature of economy growth. Antagonizing the location theory, Krugman talks about economic geography saying there is no imperfection in the competition environment, and how this influences local and regional growth ratio inside a country or even between countries. This evolution in the studies turned into a new research field called 'new economic geography', as called by Krugman.

This meant for the governments of developed countries they had to move from business subsidy for research and development on specific themes in the 80s to offer conditions so productive activity could arrange in a systematic and integrated manner (Cassiolato and Lastres, 2000). In Brazil, for example, incentive to innovation policies appeared in the late 90s, and grows since the Lula government.

Some authors, like Dunning (1997), thinking about economic globalization, bet on the possibility of evolving into a new development stage of economic systems (related to the concept of 'alliance capitalism'), based on the coexistence of cooperation and competition relationships. Britto (2011) affirms the analysis of clusters is changing for competence dynamics of markets. Those agglomerations are forget starting from deriving impacts of globalization and liberalization processes, in one hand, and in the other, the growing number of on-line relationships and strategic alliances structured to allow surviving in a new context.

Though national strategies are different in each country, Region countries possess some similar traits, like a strong audiovisual culture and wide percentage of television devices at home, as we can observe in the table 1.

Table 1
% of population possessing a television at home in six Latin American Countries (Castro, 2008)

Countries	% of population possessing TV at home
Argentina	98%
Brazil	98%
Colombia	79%
Peru	67.5%
Uruguay	95%
Venezuela	90%

There is also a high index of the use of mobile phones in the Region (versus an even lower index of the population that possesses internet-mediated computers, dial-up or broadband access). However, there are little mobile phones with proper technology and enabled to receive free-to-air digital television signal through the One Seg technology. This happens because the biggest part of the mobile phones in Latin America and the Caribbean are prepaid or use cards, as we can evaluate from the data offered by the government in countries like Brazil, Peru and Uruguay (table 2).

Table 2
Use of mobile phones in six Latin American Countries (Teleco, 2012)

Country	Use of cellphone (in millions)	Use of prepaid mobile phone (in %)
Brazil (pop. 190, 7 millions)	205	82
Argentina (pop. 40 millions)	56.7	No dates
Colombia (44,9 millions)	41	No dates
Peru (29 millions)	27	89.5
Uruguay (3,3 millions)	4.2	75
Venezuela (28,2 millions)	27.8	No dates

They will also be able to participate of other fields that help in the business chain involving digital content exportation in the Region, unlike the concentrator business model happening in the analog commercial TV in Latin America. It is true to say the audiovisual analog content production is significant in Brazil, Mexico, Argentina, Colombia and Venezuela, but this same production is restricted to export by huge communication groups, like Globo, Cisneros or Televisa.

Final considerations

Below, I will present the main observations of what is happening in the six focused countries trying to offer a general vision of each one:

1. Argentina changed radically the audiovisual law to adapt to digital media. In other countries, there was small modifications, and Brazil still does not has any updated law for radio broadcasting and telecommunications;

2. Colombia joined ministries and created a new Ministry about Information and Communication Technologies;

3. None of the mentioned countries possesses a National Center dedicated to digital content production, but some have state centers, like Argentina and Colombia;

4. Brazil announced the creation of a National Center in 2008, but the project has not been achieved; proposed public policies by the ending of the Lula's government to develop the digital content industry, but the proposal is still being analyzed by Dilma Rousseff's government;

5. Argentina and Paraguay pronounced in 2011 the creation of a common center for digital and interactive content development focused on free-to-air DTV;

6. Argentina and Venezuela pronounced in 2012 the creation of a common center for digital and interactive content development focused on free-to-air DTV;

7. Argentina began to develop in 2010 nine digital content development poles for different States, and it is already possible to watch productions to different digital narratives, as journalistic formats and different formats of entertainment to free-to-air television;

8. Colombia, the only analyzed country to choose the European standard, developed five digital content production poles for different States, and realized a public call for independent content producers in 2011. They presented 500 audiovisual and digital content, and will air 200 of those in free-to-air television (without interactivity);

9. Brazilian initiatives in audiovisual and digital content are specific and limited to some ministries, since the country has not yet developed important public inter-ministerial policies, essential to become internal standard in their own country, even being a reference in terms of standard for other countries. One of the most important qualification initiatives to produce digital and interactive content using the middleware *Ginga* didn't came from federal government, but from the Brazilian Internet Steering Committee (CGI), agency involving governmental, academic, companies and civil society representatives.

10. Only Argentina adopted the cheapening policy of digital converters, though the first 40,000 imported products and donated to the low-income population didn't possessed return cannel (2011). Until the end of 2011, more than 600,000 set top boxes were already donated.

11. Brazil and Uruguay are developing a private joint Project to offer set top boxes to convert the analog to digital, along with low-price interactive resources.

12. Peru, one of the countries that adopted the Japanese-Brazilian model of DTV, was given two laboratories to stimulate digital and interactive content production by the Brazil Agency of Cooperation (ABC): one for developing and learning about the Ginga middleware, and another focused on digital and interactive audiovisual content construction;

13. Brazil keeps stimulating people to learn more about Ginga middleware, and the digital and interactive content production in the countries that adopted the same digital standard. Besides Peru, Chile is also receiving seminars and updating their professionals. In March 2012, happens in Brazil two courses on audiovisual and interactive digital content production for professionals and teachers of different Region countries;

14. Venezuela already developed training and graduating courses for free-to-air digital television, be it in the engineering field or in communication and education, but until today has not request the *Ginga* development laboratories for digital and audiovisual content production;

15. Uruguay was the last country to adopt the Japanese-Brazilian digital television standard, out of the other Mercosur countries (December 2010), and plans to develop a center dedicated to audiovisual accessibility content, an open niche market in the Region. Brail and Argentine are involved in this project.

We can observe even though there is the need of graduating, training, researching and innovating in the Region, little by little the countries involved start to organize to produce audiovisual and digital content. Interactive content are usually initiative of free-to-air television companies, and are a minority if compared altogether with the private television companies. On the other hand, Latin America and the Caribbean Countries that propose to stimulate research and audiovisual and digital interactive content production, besides being an emergent industry, make room to offer an important differential to the current projects in core countries. It's an offer and development of free digital contents and services to low-income population, the ones that don't have access to computers or mobile phones of third or fourth generation, when most of them still have prepaid cell phones, but have a television at home.

In the Region countries, where there is an audiovisual culture and the television is the main mean of access to entertainment and information, there is a need to think of other ways to digital and social inclusion. This also happens from the stimulus to the digital culture, through the adoption of free software, joint production of new knowledge and creative common. This is the case of the *Ginga* middleware, possessing a free software community and voluntary participation of 12,000 developers of audiovisual and digital content from many different areas, like communication, art, engineering and informatics in Brazil and another 3,000 in Latin America. In this sense, the transdisciplinary view is needed and compatible with the changes we're living.

Notes

1   As proposed by McLuhan in the 60's.

2   Model comprehending art and culture as a space meant to add value to goods and services; it has been adopted by the Ministry of Culture of Brazil. A specialized Secretariat was created, much like the British government did in the late 90's. It includes different segments of business – like fashion, design, architecture, audiovisual, education, craftwork, tourism, museums and new media.

3   Covers economy sectors based on digital technologies, like telecommunications, information technologies, electronic goods, and audiovisual and digital service.

4   Economic geography focuses on intersectional trade, and studies the possible cluster and the multiplying effects of similar countries and neighbors whose levels of Gross Domestic Product (GDP) are alike.

5   Like most of specialized literature.

6   Originally, the concept was related to environmental questions, but since 1987 it was expanded to social equity, appearing for the first time in the Report of the World Commission on Environment and Development.

7   With a regional vision.

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Chapter 3
e-Research: the new paradigm of science in Latin America

Carlos Arcila Calderón
Universidad del Rosario (Colombia)
carlos.arcila@urosario.edu.co

Mabel Calderín
Universidad Católica Andrés Bello (Venezuela)
mcalderi@ucab.edu.ve

Luis Núñez
Universidad Industrial de Santander (Colombia)
lnunez@uis.edu.co

Ysabel Briceño
Universidad de Los Andes (Venezuela)
ysabelbr@ula.ve

Introduction

E-Research is changing practices and dynamics in social research by the incorporation of advanced e-tools to process data and increase scientific collaboration. Specifically e-Research refers to the advance and intensive use of Information and Communication Technologies (ICTs) to produce, manage and share scientific data in a geographically distributed context of collaboration (i.e. Grid, Cloud and any Advanced Distributed Computing Platforms). This chapter offers an overview of e-Research in Latin America, focusing in the formation of Virtual Research Communities, the available e-Infrastructure and the use of ICTs by social and communication scientists.

Previous research shows a positive attitude of social investigators through e-Research (Dutton and Meyer, 2008) and shows a fast incorporation of e-Tools, despite many cultural resistances to the change (Arcila, 2011). Even when Social Sciences and Humanities are aware (Dutton & Jeffreys, eds., 2010) of a new paradigm in science (called Science 2.0 or e-Science), Natural and Experimental Sciences —like High Energies Physics (Gentil-Beccott, Mele, Holtkamp and O'Connell, 2009)- have a much larger experience in the use and implementation of ICTs into daily research.

Nowadays, Communication Research, for instance, includes a large number of methods, from qualitative to quantitative, but in both cases a big amount of data must be collected, recorded analyzed and preserved. If we think that Media has been the main target of Communication Research, we may imagine the scale of data that can be produced and how much collaboration is necessary to deal with. At least in Latin America, Spain and Portugal, many researchers in this area have incorporated basic e-tools (e.g. e-mail, commercial videoconference, office and statistical software, and social networks), but advanced technologies to process huge amount of data (e.g. Advanced Computing simulation environment) are still far away from being used to the same degree (Arcila, Piñuel and Calderín, 2013).

However, some specific progress has been done in USA and Great Britain (both countries have specialized organizations dedicated to promote e-Social Science: National Science Foundation office of Cyberinfrastructure & National Centre for e-Social Science). One of these efforts is the MiMeG Project (MixedMediaGrid[1]), finished in 2008 and based at the University of Bristol and King's College London. This program aimed to generate tools and techniques for social scientists to analyze audio-visual qualitative data and related materials collaboratively. Another program to integrate media management to Grid platforms is the proposal of Perrott, Harmer and Levis (2008) to create a network-center infrastructure for the British Broadcasting Corporation (BBC).

The explosion of new media and the still impressive effect of traditional media in society are two good reasons to think that e-Research is necessary to this field of knowledge. Literature argues that the use of ICT has serious implications in the quality and value of research (Borgman, 2007). For example, Liao (2010) has confirmed that high intensity in collaboration results in higher research quality (number of citations, impact factor, size of research awards, etc). This study only takes one dimension of e-Research (intensive collaboration) and one dimension of quality (scientometrics), but is a good sample of how new practices and tools are re-shaping the research activity. Other indicators of quality (like researcher's perception) may be included as part of new studies to confirm the importance of e-Research. In any case, an overview to e-Research in Media and Communication Studies indicates that this is a very young arena where a lot of investment is needed to achieve the levels of other disciplines that has traditionally had an intensive use of ICT, such as Physics.

Virtual research communities

One of the main challenges to Social Sciences and Humanities is the conformation of Virtual Research Communities (VRC). VCRs are groups of researchers that work fundamentally through Internet. Interest in the VRC's life cycle is relatively recent and it is associated with the emergence of a new mode of scientific production and characterized by the formation of heterogeneous groups with disciplinary structure, non-hierarchical organization. These are usually formed with many participants and with greater social responsibilities. (Gibbons, Limoges, Nowotny, Schwartzman, Scott and Trow, 1994).

Broadly speaking, a reflection that tries to claim the relationship between science and society, and an advanced technology that fosters new media capabilities, will define a particular context in group interaction and will start to constitute a big influence in code socialization for decision making in the investment for the scientific sector.

With an information economy, with increasing technological innovations in telecommunications, and social perception that engages science with its environment, there is pressure for researchers to establish themselves in interdisciplinary environments that are globalized, collaborative, with answers to ethical dilemmas, with reconsiderations on the distribution of information and knowledge and with socially justified applications. This is a scenario that allows – and forces? – The formation of research communities with social responsibility and collective criteria that go beyond the typical methodological individualism of the traditional scientific production, beginning a long process of learning to readapt a number of new values, other than those that historically have been constructed by science.

In this context, there is a turning point tissue that determines the adaptation of what is involved in scientific communication (between members of research groups and to society): researchers, institutional structure, the environment, the data exchange process, the discursive construction and reconstruction of knowledge, the building of common codes (negotiation between actors), the visibility and access to information. Beyond technology offer, this tissue is mainly defined by working groups that build organizational mechanisms adapted to the new schemes and respond differently to new production scenarios and scientific communication.

The main axis of this organization are drawn by an open communication model, with an audit that goes beyond the parameters of peer relationship, with flexibility in linking other actors outside the field of science, thereby supporting trends that reflect not only a new form of scientific output, but also expressing a new interpretation of the relationship between science and society, mediated by the ICT (Science 2.0, Citizen Science). Described as online communities and more recently as virtual research communities, the interpretation of these groups is still under construction, starting to be recognized as new forms of collective organizations that are still in formation. (Proulx and Latzko-Toth, as cited in Renaud, 2009). However, much of the journey focuses, first, on the interaction mediated by ICTs (Renauld, 2009) and, on the other hand, in a review of internal processes of investigation under this Scheme (Bradner and Mark, 2002; Olson and Olson, 2000; Preece and Maloney, 2003; Rusell and Morales, 2009).

It is clear that much remains to be done on the topic of virtual communities, about their impact on the evolution of knowledge models and also on the opening of new ones to understand what is their real effect, regarding the visibility and transparency of scientific processes and the results they may have on the proposed new relationship between science and society.

For our purposes, we define VCRs, as those groups linked by common goals around a quest for knowledge, whose members are geographically dispersed and base their trade (domestic and with unskilled sectors) in the use of electronic computer tools, from the simplest to the most complex. These communities generate ad hoc organizational protocols, according to the characteristics of the project that links them, and become socially visible during the various phases of scientific production through various forms of exchange.

Adapting the traditional parameters of investigation in this new context and promoting capacities for the use of e-infrastructure in favor of scientific methods with faster and more horizontal exchange processes as well as more visibility is a real challenge. However, cultural changes – albeit slow- would not be possible if there were no technological conditions to foster them. In this sense, Latin America has seen the emergence of important initiatives in order to strengthen a network of advanced academic connection with the introduction of projects that foster environments mediated by ICT, providing tools that inspire distributed logic of knowledge.

e-Infrastructure in Latin America

1) RedCLARA

RedCLARA[2] (Cooperación Latinoamericana de Redes Avanzadas, or Latin American Cooperation of Advanced Networks) is a consortium of 15 countries with the participation of their corresponding National Research and Education Networks (NRENs). Since its creation, in 2004, RedCLARA has been a crucial player for ICT mediated research and education in Latin America, offering collaboration environments to the scientific community at regional level, by means of its connections to its siblings networks, GÉANT[3] in Europe, and Internet2[4] in USA.

During these years most of the effort has been concentrated in raising awareness to Policy and Decision Makers of the objectives and tools of the e-infrastructure, at both national and regional levels. Directors of National Research and Education Networks (NRENs) have been advised of the importance to support the creation and the operation of e-infrastructures and, more generally, to foster the development of e-Science in Latin America.

Despite the significant effort promoting the use of the e-infrastructure, its use is far from optimal due to a lack of awareness and articulation between researchers and local NRENs. The multi-country membership nature of RedCLARA and the multi-diversity of technical skills of its members, derived from dissimilar Academic Communities in the Latin American region, have been reflected in the limited capacities of the region to formulate competitive projects and have resulted in a very peculiar way of building a sustainable e-Infrastructure in the region. Although the Science and Technology organization is very fragile, presently, from the RedCLARA point of view, in our region there are four consolidated NRENs (Brazil, Colombia, Chile and Mexico) and three emerging ones (Argentina, Venezuela, and Cuba). The other NRENs are considered embryonic. This is not only because the degree of development of the technical e-infrastructure available in each country, but also due to the activity of the academic research community that profits from it.

2) Building the e-Infrastructure in Latin America

There has been a significant effort from the European Commission to promote the use of the e-infrastructure in Latin America. Since 2003 with ALICE[5] project (Latin America Interconnected with Europe) followed by EELA[6] (E-infrastructure shared between Europe and Latin America) in 2006; ALICE2[7] and EELA2[8] (E-science grid facility between Europe and Latin America) both in 2008, and more recently GISELA[9] (Grid Initiatives for e-Science virtual communities in Europe and Latin America) in 2010 and ELCIRA (Europe Latin America Collaborative e-Infrastructure for Research Activities) starting mid 2012.

Other efforts are also present in the region funded from other sources, like the Latin American Grid (LAGrid[10]), started in 2006, financed by IBM, coordinated by the Florida International University and aimed to create a community of institutions that to build collaborative projects based on Advanced Computing e-Infrastructure and impacting different areas such as Health, Life Science and Natural Disasters. The other important initiative was the E-CienciAL[11] Project: Program for the Promotion of the Use of Advanced Networks in Latin America for the development of Science, Technology and Innovation, which was funded by the Organization of American States and was aimed to contribute towards the articulation of the region scientific community in relation to a Strategic Agenda for e-Science in Latin America, This project helps to validate the necessity of the concept of e-Science in the region, identifying research groups and centers that were willing to use e-infrastructure resources in their day-to-day activities.

Included in the list, are communities that have been working with RedCLARA. These are: the ComCLARA 2010 and 2011 communities (figure 1), three communities supported by the IDB-RedCLARA program (Tropical Diseases, Disaster Mitigation and BioFuels), the communities in Latin America for the Large Hadron Collider, High Energy experiments (CMS, ALICE, ATLAS and LHCb), the Astronomy Observatory Communities (Pierre Auger Observatory and European Souther Observatories), four Project driven communities (Weather Research Forecasting, International Network for Digital Cultural Heritage e-Infrastructure, Health Grid Initiative and the worldwide e-Infrastructure for NMR and structural biology) and two communities from the LA initiative (Centro Internacional de la Papa, NanoAndes).

Figure 1
RedCLARA Regional Communities.
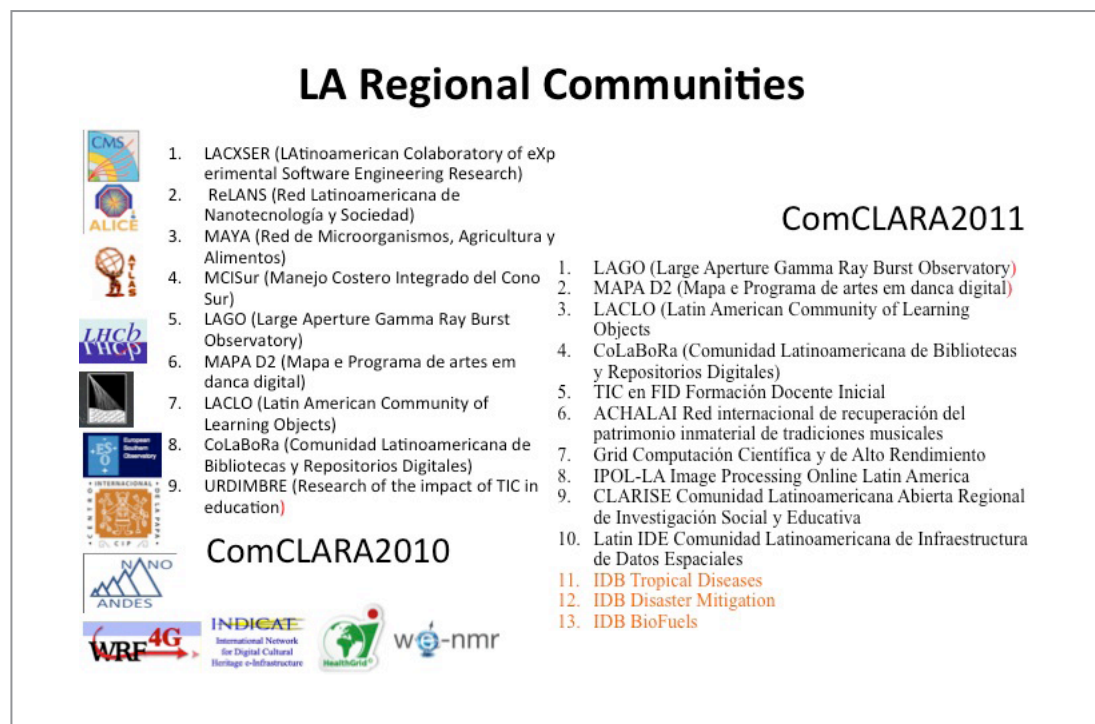
3) RedCLARA and Virtual Research Communities

One of the most important outcomes of e-CienciAL is a knowledge database of the research capability of Latin America. More than 800 scientists are registered in this database. During 2009 and 2010 several actions were taken to gather information regarding the most relevant needs of those communities (visit to S&T bodies, a Delphi Survey to identify priorities and strategic axes to develop e-Science in Latin America). The information collected served to build a service plan tailored to the most relevant needs of the Latin American research and scientific communities. Some of these groups of scientist with research topics aligned with FP7 and MDG priorities served as a starting point to build VRCs in the region within the EUROPEAID-funded ALICE2 Project. In Figure 1 we have listed those communities that have been working closely with RedCLARA.

4) RedCLARA and ComCLARA Communities

Since 2010, 18 VRCs have benefited by ComCLARA programs. These communities are groups of researchers from at least, 5 Latin American countries members of CLARA, that have been collaborating by intensively using the e-infrastructure for at least the previous year. They have a research plan for the next year and are committed to write proposals that show possible sustainability actions for the community. Both, 2010 and 2011 calls have been competitive. In 2010, this program received 32 proposals. Nine were awarded and have successfully completed their period of activity. More recently, ComCLARA 2011 received 37 proposals and six communities were approved, joining the renewal of the four most successful ComCLARA2010 VRC. In Figure 2 we show the areas of the resulting communities as well as the country leaders for each call. RedCLARA provides support not only in funding a community coordinator and travel expenses for face to face community meetings, but more importantly in the creation of the collaborative virtual environment (with training and user support) through the RedCLARA Portal.

Figure 2
Areas and Country Leader for ComCLARA 20010 and 2011 programs
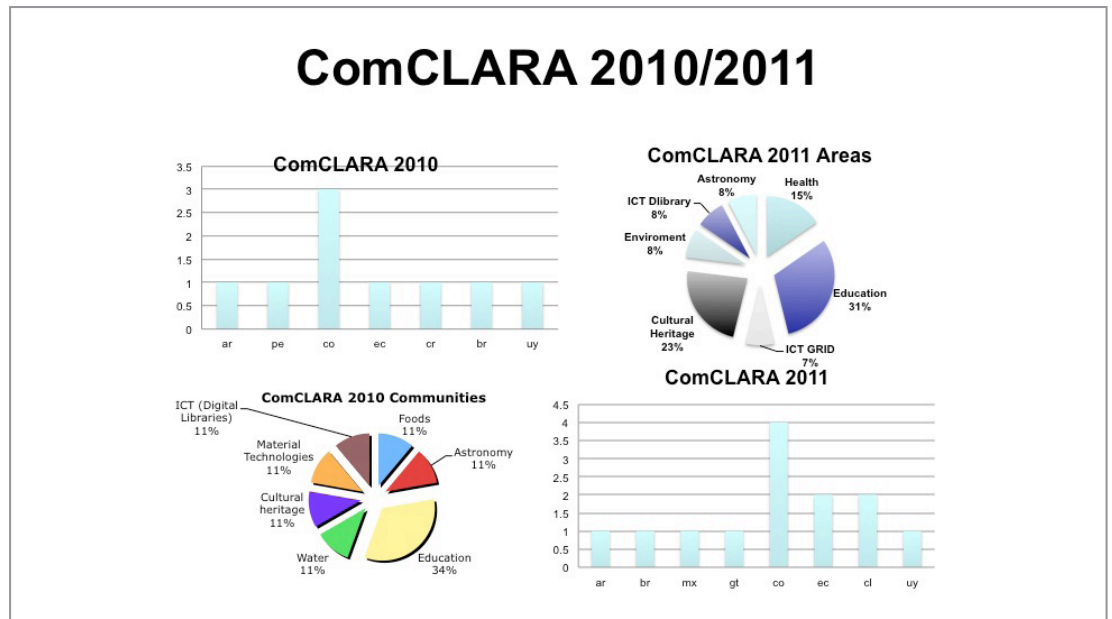
The ComCLARA VRCs can be summarized as:

- **Microorganisms, Agriculture and Food (ComCLARA2010/Biotecnology)** This community, with participants from seven Latin American countries, works on microbiology diversity promoting the growing of various crops, inoculating them by means of adequate biotechnological tools. Because of its low costs proceeding in comparison with chemical fertilizers and for being a biological non-toxic choice, the farmer may benefit directly. The targeted crops are potato, beans, cotton, corn and other Latin American native cultures. This community worked already on a CYTED's project and. its members happen to be: Universidad Nacional Agraria La Molina (Peru-leader), Empresa Brazileira de Pesquisa Agropecuária (Brazil), Universidad Nacional Autónoma de México (México), Universidad Central de Venezuela (Venezuela), Instituto Nacional de Investigación Agropecuaria (Uruguay), Consejo Superior de Investigaciones Científicas (Spain) and Universidad de Salamanca (Spain).

- **Learning Objects Latin American Community (ComCLARA2010 & ComCLARA2011/ Education)** The LACLO [12] community for Learning Objects was created 5 years ago, in Guayaquil, Ecuador, with Latin Americanspecialists. The objectives of LACLO can be summarized in the following 4 action lines: the utilization of Learning Objects and other Education Technologies all around Latin America; the interoperability of existent repositories and management systems of educative contents for common; joint research or application projects inside the Latin American region for solving identified specifically regional problems; joint research or application projects with other similar groups around the world. This community's institution members include: Escuela Politécnica del Litoral, ESPOL (Ecuador-Leader), Universidad Austral de Chile (Chile), Universidad Autónoma de Aguascalientes (Mexico), Universidad de Guadalajara Virtual (Mexico), Universidad de la República (Uruguay), Universidad Nacional Experimental Francisco de Miranda (Venezuela), Universidad Presbiteriana Mackenzie (Brazil) and Universidad Cruzeiro do Sul (Brazil)

- **Research and Education (ComCLARA2010/Education)** This community initiated its activities in 2009 with the diffusion of the application experience named Model for Research Training Based on Competences Acquisition using ICT. Its member are: Politécnico Gran Colombiano (Colombia-Leader), Confederación Universitaria de Investigación (Colombia), Desarrollo and Universidad de Ibagué (Colombia), Universidad Tecnológica de El Salvador (El Salvador:), Instituto Tecnlógico de Durango (Mexico); Instituto Tecnológico de León (Mexico), Universidad Autónoma de Querétaro (Mexico), CIPS MEXICO (Mexico), Universidad de Guanajuato (Mexico), Universidad Nacional Abierta (Venezuela), Pontificia Univesidad Católica de Ecuador (Ecuador), Escuela Pedagógica Experimental (Ecuador) and Universidad Tecnológica Equinoccial (Ecuador).

- **Large Aperture Gamma Ray Burst Observatory (ComCLARA2010 & 2011/Astronomy)** The LAGO project is an international Astrophysics and Astroparticles project led by 23 institutions in 9 countries. It is a spin-off from the Pierre Auger Observatory. The main idea is to operate low cost Water Cherenkov Detectors at high mountain sites to look for Gamma Ray Bursts and to study solar activity through the modulation of cosmic ray flux. The LAGO Collaboration has developed a prototype of data repository, LAGOvirtual, where the data are classified mainly into three types: instrument calibration data, data sets captured by the WCD instruments and simulated data. In the future this repository will also preserve papers, thesis, Labs Notes and/or any documents related with the project. The members of LAGO are: Centro Atómico Bariloche (Argentina-Leader); Universidad de Buenos Aires (Argentina), University of Sidney (Australia), Universidad Mayor de San Andrés (Bolivia), Universidad Industrial de Santander (Colombia), Universitè Paris 7 (France), INFN-Torino (Italy); Universitá di Torino and INFN (Italy), Universidad Autónoma de Chiapas (Mexico), Instituto Nacional de Astrofísica, Óptica y Electrónica; Benemérita Universidad Autónoma de Puebla; Universidad Politécnica de Pachuca; Universidad Michoacana de San Nicolás de Hidalgo (Mexico), Universidad Nacional San Antonio Abad del Cusco (Peru); Universidad Nacional de Ingeniería (Peru), Comisión Nacional de Investigación y Desarrollo Aeroespacial (Peru), Universidad de Granada (Spain), Michigan Technological Univ. (USA), Universidad de Los Andes (Venezuela), Universidad Central de Venezuela (Venezuela), Universidad Simón Bolívar (Venezuela).

- **TIC in FID (ComCLARA2011/Education)** The aim of the network is to share experiences and to develop initiatives to enhance the appropriation of ICT by the students of education in several countries in Latin America. The community is creating a space where teachers and students can discuss and share experiences across universities in the Latin American region. This activity will contribute to help primary and secondary students to have better knowledge of ICT use. The community is a collaboration of several universities in five countries: Universidad Metropolitana de Ciencias de la Educación (Chile), Universidad de Los Lagos (Chile), Universidad Católica del Norte (Chile), Universidad de La Frontera (Chile), Universidad Austral and Universidad del Bío-Bío (Chile), Universidad de Manizales (Colombia), Universidad Libre seccional Cali (Colombia), Instituto Superior de Formación Docente N° 29 y N° 45 (Argentina), Universidad Veracruzana (Mexico), Universidad Latina de Panamá (Panama).

- **Education: Latin American Co-laboratory of Experimental Software Engineering Research (ComCLARA2010/Education)** LACXSER [13] is led and executed by Latin American researchers in Software Engineering, in order to strengthen capacity for applied research and academic exchanges by using high-speed academic networks. To accomplish this, they have developed Computer Supported Collaborative Learning Environments, which improve education of students in the field of software engineering through distributed interaction between geographically distant "classmates". The institutions members of this community are: Universidad Tecnológica de Panamá (Panama), Universidad Federal do Río de Janeiro (Brazil), Universidad de Chile (Chile), Universidad Nacional de San Juan (Argentina), Universidad Nacional de Costa Rica (Costa Rica).

- **Digital Libraries: Digital Libraries and Repositories (ComCLARA2010/ICT)** The Digital Libraries and Repositories community (named shortly COLABORA), represents the consolidation of the diverse efforts aiming to have an accessible online source without restrictions for academic, cultural and research production in Latin America which would be free for other world regions. The original members of the community were: Universidad de El Salvador (Argentina), Consejo Latinoamericano de Ciencias Sociales CLACSO (Argentina), Universidad Sao Paulo (Brazil), Universidad Estatal de Campinas (Brazil), Red Universitaria Nacional de Chile, REUNA, (Chile), Universidad Austral de Chile (Chile), Pontificia Universidad Católica de Valparaíso (Chile), Universidad del Rosario (Colombia), Universidad EAFIT (Colombia), Universidad de Antioquía (Colombia), Universidad de La Salle (Colombia), Escuela Politécnica Nacional (Ecuador), Escuela Superior Politécnica del Litoral (Ecuador). This community was the starting point of a more ambitious project funded by the International Development Bank, known as Red Federada de Repositorios institucionales de publicaciones científicas, La REFERENCIA [14].

- **Latin IDE Spatial Data Infrastructure (ComCLARA2011/ICT)** This community is related to the health and education social services distribution within a geographic region. The Spatial Data Infrastructure (IDE, for its initials in Spanish) is an information system that integrates a set of services, such as catalogues, vision drivers and map editors, for managing geographical information by internet (maps, satellite images, etc.) with a standard of interoperability (norms, specifications, protocols, interfaces, etc.) allowing the user to combine information according to his needs. CEDIA (the Ecuadorian NREN) is planning to extend this project to all Latin America with the denomination of IDERedCLARA to integrate geographical information coming out from the sources for planning, natural disasters prevention, human settlements planning, and security measures. Participating countries/institutions are: Universidad de Cuenca (Ecuador), Universidad Técnica Particular de Loja (Ecuador), Universidad Técnica del Norte (Ecuador), Universidad Regional Autónoma de Los Andes (Ecuador), Universidad Politécnica Salesiana (Ecuador), Universidad Estatal de Bolívar (Ecuador), Escuela Superior Politécnica de Chimborazo (Ecuador); Universidad Nacional de la Patagonia San Juan Bosco (Argentina), Universidad Mayor de San Simón (Bolivia), Universidad de Chile (Chile), Universidad del Quindío (Colombia), Centro Nacional de Alta Tecnología (Costa Rica), Universidad Nacional Agraria La Molina (Peru).

- **ACHALAI[15] (ComCLARA2011/Cultural Heritage)** International Network for the recovery of the intangible heritage of musical traditions. This research network aims to strengthen, to facilitate and to promote interrelation among researchers involved in the study of ancient native music of Latin America, including its oral tradition, and ancient historical cross-cultural contexts. The community, made up of Latin American institutions of Spain, Venezuela, Colombia, Ecuador, Mexico and Chile, is using advanced ICT and computing infrastructure to produce sounds from those instruments of our native past which, by its structure and the environment in which they were preserved, are not able to be played directly today. In order to be sustainable, this community is working on a project "Collaborative Action Network ancient pre-Hispanic musical recovery, aligning research and technology", which is estimated to be submitted for funding to the National Science and System technology in Chile, CONICYT, also to CYTED and FP7.

- **COMHPC-GRID, Scientific Computing and High Performance (ComCLARA2011/ICT)** The community amalgamates groups of computational scientists and computing specialists, working together on the development and promoting the use of scalable architectures for scientific computing and high performance, including requirements, skills and techniques needed for ubiquitous computing and remote access for instrumentation. The participating countries/institutions are: Universida Industrial de Santander (Colombia-Leader) Universidad de los Andes (Colombia), Universidad Central de Venezuela (Venezuela), Universidad de los Andes (Venezuela), Universidad Federal de Rio Grande du Sul (Brazil), Instituto Tecnológico de Colima (Mexico), Universidad Tecnológica de Panamá (Panama).

From the participation of countries/institutions in each of the above mentioned VRCs, it is interesting to sketch a cooperation map for the Latin American Region. In Figure 3 the cooperation of the ComCLARA communities is represented. From the point of view of RedCLARA, we consider three sub regions: Atlantic (dark green), Pacific (yellow) and Central America (blue). It is clear that the cooperation between sub-regions is very similar: 32.2 % Pacific-Central America, 37.6 % Atlantic-Pacific and 24.7 % Pacific-Central America. These results are also found for the ComCLARA 2010 Communities and also for the ALFA Communities.

Figure 3
ComCLARA 2011 Cooperation Map. It is shown although the cooperation among regions are almost equivalent and the higher collaboration is registered within the South American continent.

4) Other LA Virtual Research Communities

There are other active VRC in the region, most of them emerging from the EU-LA cooperation. As is shown in Figure 1, we see communities in Latin America for the Large Hadron Collider [16] and High Energy Physics experiments (CMS, ALICE, ATLAS and LHCb). These are active worldwide communities of hundreds of collaborators around the world, with more than two decades of experience collaborating with each other. In Latin America they have more than 100 members in almost all the countries of the region. In northern Chile, there are several world-class observatories operating in cooperation with the European Union. The European Southern Observatories organization operates three unique world-class observing sites in the Atacama Desert region of Chile: La Silla, Paranal and Chajnantor. Around these important sites there have been several communities that profit from these installations and use extensively the e-infrastructure to transmit data from these sites to the rest of the world. At the Argentinian Patagonia there is also a big instrument that generates important amounts of data and also has an active worldwide VRC. This is the Pierre Auger Observatory [17] operated by a collaboration of 17 countries, and covering an area over 3000 km2 in Mendoza province, Argentina [18]. There are other project driven communities, like the Weather Research Forecast [19], the International Network for Digital Cultural Heritage e-Infrastructure [20], Health Grid Initiative [21], and the worldwide e-Infrastructure for NMR and structural biology [22]. All these communities have been promoted in the Latin American region by the EELA, EELA2 and GISELA projects. There are also other sources of funding that are starting to use the e-infrastructure. Among the most important funding sources, specifically related to Latin America, are:

- ALFA [23] is a program of co-operation between Higher Education Institutions of the European Union and Latin America. It is supported by the EuropeAid Development and Cooperation Directorate General, which is responsible for designing EU development policies and delivering aid through programs and projects across the world. The Idea of the ALFA Program promotes Higher Education in Latin America as a means to contribute to the economic and social development of the region. There are more than 60 communities in LA supported by this program.

- The CYTED Program is an intergovernmental multilateral Science and Technology cooperation between 19 Latin American countries, Spain and Portugal, to promote cooperation in Research and Innovation for the development of the Latin America region. It is considered by the Latin American research community as an essential tool for Social and Technological Development, as well as for productive modernization and greater competitiveness for economic development. Presently, the CYTED program supports almost 50 communities in the region.

## 5) RedCLARA strategy, lesson learned and some early results

During these two years in which RedCLARA has been building VRCs that could intensively use the e-infrastructure, a two level strategy was developed. In the first level, RedCLARA has been raising awareness and technical skills of all NRENs in the regions. These national academic network organizations are responsible to support the operation of the connectivity from the RedCLARA infrastructure to every academic institution (university and/or research centers) within the corresponding country. Decision makers and technical personnel of each NREN have to be aware of the possibilities offered by the e-infrastructure and services that are available. The other level of RedCLARA action is to work directly with the research community at the institution level, raising its awareness of the existence of services and identifying some needs that could be transformed in future services. Motivating researchers to profit from e-infrastructure and to collaborate with other colleagues establishing VRCs, generates a demand of services for both, the NREN and RedCLARA and both organizations should be capable to satisfy the researchers requirements.

Working together with the ComCLARA Communities gives RedCLARA the opportunity to learn five (almost obvious) lessons:

1. In order to get some results in a very short term, we have to tightly follow-up on the community activities. This can be accomplished through monthly virtual meetings to discuss progress reports, detecting difficulties and bottlenecks in their activities. These periodic virtual meetings have to be complemented with weekly mails and personal contacts.

2. The second lesson is to provide a rapid response to their service demands. This obvious, but not easy, task has to be provided by the cooperation of IT staff of the corresponding institution, the NREN technical people, and the RedCLARA Regional Operation support personnel. Because of the multiple actor participation, it could be very time consuming, but is very necessary.

3. As we have stated, collaborating in a VRC is a new paradigm with new practices and codes. The managerial skills and practices should be acquired by all the members of the community in order to obtain successful results in a short time. For example, how to solve difficulties and operational problems, and how to know which communication tools (mail, videoconference or physical meetings) should be used in each case. There are communities that have a previous experience in collaborating with ICT environments (High Energy Physics Communities has more than two decades collaborating worldwide). These previous experiences should be shared with the newcomer communities in order to leverage their understanding of this new way to cooperate.

4. Train and share experiences of how to effectively write competitive proposals. One of the central issues for a community (and for any research organization) is its sustainability, and this is often related to funding from different sources. For the particular case of VRCs this funding opportunities are mainly coming from international sources or national funding from international cooperation. The RedCLARA funding alert system is a useful tool to inform the research communities which funding sources are available in the regions and the critical dates for each call. In addition, RedCLARA has devised several distant courses to share experiences in how to write successful competitive proposals for the European 7th Framework Program, IDB and World Bank. These courses are available in the Moodle format and can be freely used by any NREN or research community in the region.

5. The communities are as they are. Their members are incorporated with own topics and competences because they are part of a particular institution. The diversity of membership schemes of the NRENs in Latin America have to be more flexible in order to incorporate newcomer communities. RedCLARA/NRENs collaborative services are provided to the researchers of institutions members of each NREN as a part of their membership. But, communities are not made just with researchers from NREN members. VRC emerges as an amalgam of researchers coming from a variety of academic (or not) institutions. How to handle this openness from the point of view of an NREN struggling for its sustainability, is a real challenge and has to be faced with audacity. Communities are the roots of sustainability for NRENs and for RedCLARA, and both organizations have to adapt to this new reality. The success and visibility of the community are the success and visibility of the supporting NREN (and also for RedCLARA), and this is a direct and very important by-product to promote VRC in the region.

Figure 4
ComCLARA 2011 outcomes.
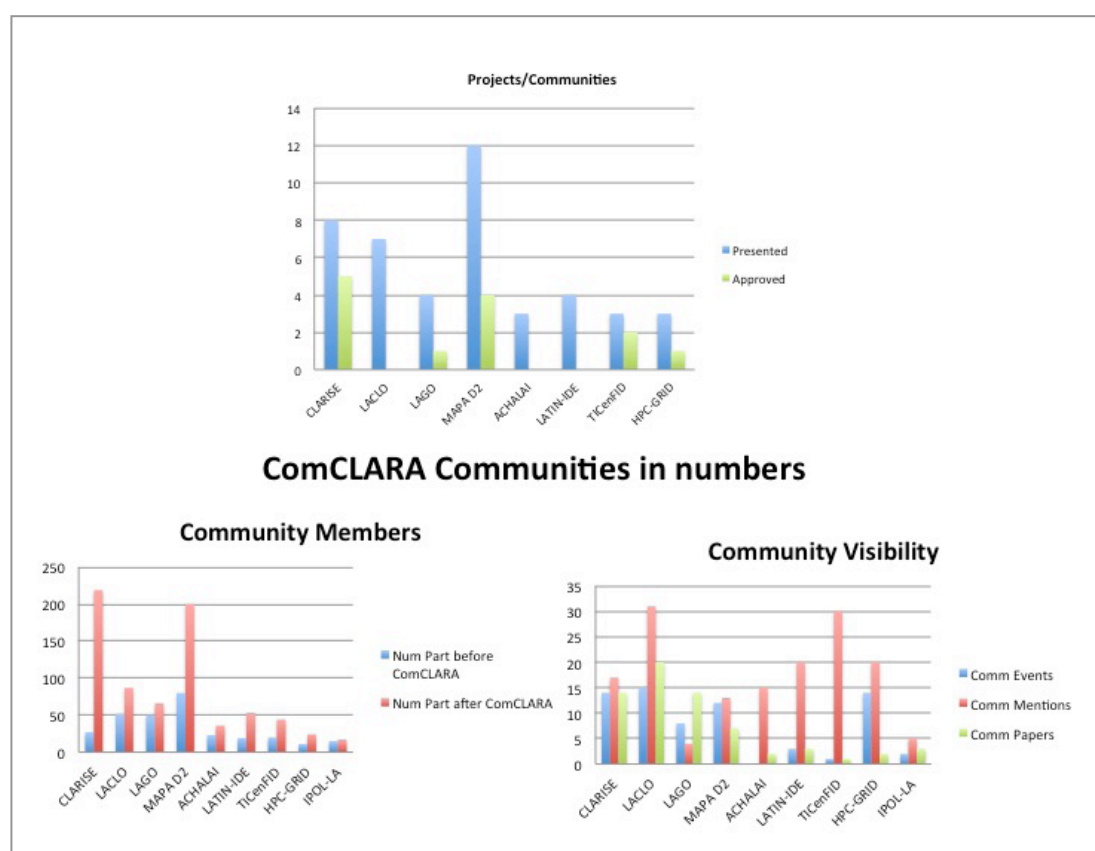
As it is clear from Figure 4, the entire ComCLARA2011 communities end with at least one proposal submitted to an international funding agency, and most of them got several approved. Therefore, we are expecting that most of these communities will be sustainable in the near future. It is also evident from this figure, that all of them increased their membership and became a very intense disseminators of the NREN & RedCLARA support through press releases, community mentions in webpages, and finally within research papers submitted to scientific journals/meetings.

The case of media and communication studies in Latin America, Spain and Portugal

Beyond the knowledge of the available e-infrastructure, we consider necessary the understanding of the state of e-Research in specific academic communities. A recent study (Arcila et al., 2013) has explored, through a survey, the situation of e-Research on Media and Communication Studies in Latin American Countries, as well as Spain and Portugal. According to this study, researchers of this field have a very positive attitude towards e-research. This is evident in the fact that most of the surveyed people agreed with statements such as: "E-Research increases my productivity"; "E-Research increases the productivity of my research group" and "Many new scientific questions in my field of study will require the use of E- Research tools". For most of the surveyed academics, there is a direct relationship between research quality and the use of ICT, but consider the need for further information and training regarding its uses and characteristics.

One of the topics covered in this survey deals with the financing of projects related to e-Research. Almost all of the surveyed researchers believe that their country is not allocating sufficient funds to develop such projects, and, from their point of view, the funding should be directed to the development of projects and studies based on E- Research dynamics, such as collaborative projects that promote scientific practices, and not only for the development of technological infrastructure. Regarding the previous point, the results also showed that most of the researchers belong to institutions are connected to NREN. One of the interesting facts evidenced by the survey is that a considerable percentage of communication scholars are aware that the e-Research tools and their uses involve new challenges regarding ethics.

This study also showed that communication researchers in Latin America make intensive or frequent use mainly of the so called e-tools (software, hardware and digital devices for collecting, processing, and dissemination of data). They reported having used at least one communication and scientific collaboration e-tool, mainly email, followed by document sharing sites and social networks. Furthermore, a substantial portion of said researchers reported making use of video conferences via commercial internet, through tools such as Skype, chat and collaborative virtual environments, like the EVO or Moodle platform. Tools such as video conferences via NREN or scientific event handlers are used, according to the survey, to a lesser extent.

Regarding the use of e-tools for the collection, analysis, and processing of data, more than half of the researchers, said they had made some use of databases, followed by the use of worksheets and tools for visualizing data. They were also listed in order from highest to lowest use, bibliography management and content analysis software, respectively. Interestingly, the simulation programs or distributed computing platforms known as Grids or Clusters are of little use among the surveyed scholars. Regarding the issue of preservation and dissemination of the data, the study states that communication researchers have opted for digital scientific journals and a significant part of them use open repositories (instead of restricted ones) and blogs.

As we have seen so far, most of the communication researchers have expressed different use of digital tools, however, if we approach the conceptualization of e-Research (advanced and intensive use of ICT), we realize that most such tools are the ones of widespread, or often commercial use. What makes the use of ICT an intensive and advanced practice is probably the amount of data that can be processed and the strength of the scientific collaboration. In this regard, the amount of data resulting from the use of e-tools was a key question to diagnose the current state of e-Research in the field of communications. And there, there was a very low percentage of communication researchers who claimed not to have enough space on their personal computer to store and process the data they were generating in their investigations, which could mean that these scholars are not exploiting the potential of these tools to their full capacity in order to greatly increase the amount and quality of data produced, stored and shared.

Conclusions

The new paradigm of scientific research incorporates extensive use of ICT because of the support they provide in the areas of communication, and scientific collaboration. Although the preference of researchers for the use of commercial tools usually prevails over the advanced tools, there is lack of information, lack of training and lack of incentive in the use of these platforms; several studies confirm that the attitude and predisposition towards e-research or Science 2.0 is positive (Arcila, 2011; Arcila et al., 2013; Dutton and Meyer, 2008; Gentil-Beccott, et al, 2009). In that sense, the existence of an adequate e-infrastructure may promote the development of pre-print publication systems, the use of tools that facilitate the handling of large amounts of data, increased collaboration, Grid technologies, clustering techniques, among others.

The CLARA network has an e-infrastructure that can consolidate innovation and knowledge production environments adapted to the new schemes, production scenarios and scientific communication. However, in terms of the dynamic of the participation relationships and practices generated between working groups that link science and society, there is still a long way to go, especially with regard to internal processes involving geospatially distributed collaboration.

According to the above mentioned study (Arcila et al., 2013) the idea that the new practices and tools are reshaping the research activity is maintained, since the possibilities of partnership and participation converging on the web from diversity, enable the reunion of five elements that, under the right conditions and taking advantage of the "alchemy of the crowds" – sustained by Pisani and Piotet (2009)-, would conduct to: 1) gather data that will increase its value with the growth in the number of accesses they receive, 2) bet on the diversity of sources of information, 3) compile / synthesize data in a space for submission to simple treatments and / or complex ones to obtain from the whole, more worth than the sum of its parts, 4) establish relationships between data, equipment, people, creating network effects, thereby increasing its use and therefore the service quality and its value, as has been demonstrated with Google, and 5) discuss collectively, through collaboration, multiple interactions and synergies that will lead to what is known as "collective intelligence".

In this process of reconfiguration of scientific activity, the creation of Virtual Research Communities (VRCs) is associated with the new mode of scientific production suggested by Gibbons et al. (1994) and characterized by the formation of heterogeneous groups with disciplinary structure, non-hierarchical organization, with many actors usually conformed with greater social responsibilities.

Besides the consolidation of VRCs, another factor that directly affects the development of research in Latin America is the need to be self-funded for e-Research projects. Currently, the countries of the Region do not have specialized government agencies for the promotion of e-Research. In that sense, because of the absence of public policies by the States for the promotion and investment in the development of e-Research, it is important that universities begin to build links among their peers, with business and industry, to pursue strategies to help improve training, exchange, participation and collaboration that is geographically distributed through advanced technologies networks.

Furthermore, the creation of specialized agencies in the Region and the establishment of policies to strengthen the research activity through the use of advanced platforms is essential. It is necessary for the stimuli to be directed towards the creation of collaborative and geographically distributed projects. In order to advance in the e-Science development, there are barriers that must be overcome beyond the technological aspect, which have to do with knowledge of new services and resources available from various platforms, such as pre-print systems, open access repositories, or usefulness of advanced computational tools for handling large amounts of data and the intensification of scientific collaboration, together with new attitudes and habits of researchers regarding working practices and dynamics, such as the formation of multidisciplinary teams, peer review and collective publishing, among others.

Notes

1. More information of this project at: http://www.ncess.ac.uk/research/video/mimeg/
2. http://www.redclara.net
3. http://www.geant.net
4. http://www.internet2.edu
5. http://alice.dante.net/
6. http://www.eu-eela.org
7. http://alice2.redclara.net
8. http://www.eu-eela.eu
9. http://www.gisela-grid.eu
10. http://latinamericangrid.org
11. http://www.redclara.net/index.php?option=com_content\&task=view\&id=128&Itemid=188
12. http://www.laclo.org/
13. http://www.lacxser.org
14. http://lareferencia.redclara.net/rfr/
15. http://achalai.redclara.net/
16. http://lhc.web.cern.ch/lhc/
17. http://www.auger.org
18. http://www.auger.org/features/google_earth.html
19. http://www.wrf-model.org
20. http://www.indicate-project.eu/
21. http://www.healthgrid.org
22. http://www.wenmr.eu/
23. http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/alfa/index_en.htm

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Chapter 4
Mobilizing the consumer as a partner in social networks: reflections on the commodification of subjectivities

Gisela G. S. Castro
Programa de Pós-Graduação em Comunicação e
Práticas de Consumo da ESPM (Brazil)
castro.gisela@gmail.com

Introduction

Consumption can be understood as a privileged stance through which to reflect upon our contemporary experience in the context of increasing market penetration in the most diverse spheres of our lives, especially in the realm of subjectivity. Thus, the main objective of this chapter is to discuss the appropriation of strategic social networking sites like YouTube, Facebook, Orkut and Twitter to produce a type of social actor named here as a consumer-partner. The intention is to examine the social constitution of this agent in the current phase of capitalism, named 'information capitalism' by Castells (2003).

Particularly in the last decade, the strict bond that links media and consumption has led to innovative modes of communication between brands and their audiences in the context of digital culture. In an environment which is increasingly saturated with advertising messages in and out of their more traditional spaces, it is a challenge for marketing experts to provide relevant content that captures the fleeting attention of potential customers. Throughout this discussion we will examine some advertising campaigns that have been especially produced to broadly spread in digital social networks. This kind of strategy has been called viral marketing.

Collaboratively and playfully, an unprecedented volume of content is shared in information networks that bring together people and businesses around the world. The ambition to involve the consumer as a partner and fan of a particular brand, product or service is present in greater or lesser degree of transparency in all kinds of marketing communication today. Thus it is essential to discuss the so-called 'spontaneous' participation in social networks. In order to attract potential customers and to expand their number, many different experiences related to brands are offered, especially those which use the logics of entertainment. The aim is to stimulate the consumption of experiences. This is as important today, or even more so, than other more usual forms of material or symbolical consumption. I believe it is urgent to scrutinize the kind of experience that is taken for granted here.

For the purpose of this discussion, I shall consider examples of success and failure in the always delicate relationship with the consumer as a partner and fan. My aim is to discuss the problematic, complex and multifaceted process commodification of subjectivities in the contemporary.

On the contemporary communication ecosystem

In order to begin, it is essential to locate digital culture within the contemporary communication ecosystem. It seems problematic to still insist on dichotomies such as real/virtual, human/post-human. It has never sounded so inappropriate and passé to designate technology as artificial and separate from human experience. The evident importance of the various types of mediation in everyday life renders meaningless the alleged separation between nature and culture. Among the various types of mediation, our close knit relation with the mediasphere has led scholars to designate ours as "media society". Network communication, also known as post-massive communication (Lévy and Lemos, 2010), contributes to further render complex today's ecosystem, in which network communication and mass communication coexist.

The use of the prefix cyber to describe the electronic medium of computer networks (cyberspace) does not imply that it is a separate kind of universe. Our urban space is increasingly permeated by wireless networks. This growing hybridization favors connectivity, mobility and ubiquity, stepping stones of the current times. In recent work, which displays precisely these three terms as a subtitle, Santaella (2010) remarks that "from the late 1980s, the term 'hybridism' has become a key word to characterize contemporary societies, especially those in Latin American and, in them, especially the Brazilian society" (2010, p. 81). The author argues that the words 'hybridism' and 'hybridization' have been used to refer to both the media convergence resulting from the digital processing of all kinds of information, as well as to the intersection of languages in hypermedia contexts.

In chapter devoted specifically to scrutinizing the multiple meanings of the concept of hybridism, Santaella (2010) draws attention to the key role played by the agent who drives and interacts with multiple interfaces, "cooperating in its implementation" (2010, p.93). This is the immersive receiver or reader, the one "without whom hypermedia does not take place" (2010, p.92).

Martín-Barbero also urges us to "think of technique as our technological environment and communicative ecosystem" (2008, p.24) in order to be able to reflect on the many intersections between subjectivities and sensory and cognitive technicities afforded by the overlap between our senses, our brain and the flows of information. Understanding today's young people as subjects who display "intimate and structural mediation by their interactions with and by means of technology" (2008, p.22), the author finds a double valence in communication technologies: on the one hand they can provide new subjective experiences – as, for example, presenting oneself in a given social network with different age, marital status, occupation, physical characteristics and so on. On the other hand, there is always the risk that this mode of expression becomes merely functional as it is manipulated by the forces of the market.

A lot goes on as we shift from the role of a member of the audience to the role of the user of communication media. As Castells (2009) ponders, the proliferation of digital information networks has given rise to a new model of communication that paradoxically combines features of interpersonal communication with those of mass communication. The author calls this new form mass self communication. The liberated mode of emission that was celebrated in the early days of cyberculture becomes problematic in the prevailing presence of sophisticated software programs and media strategies such as buzz marketing and viral marketing, which modulate communication between peers in ways that are not always clear.

Moreover, behind the scenes monitoring of online interactions in info-communication networks feeds huge databases from which experts extract algorithms that translate identity profiles and patterns of behavior into profitable niches of consumption. In several recent studies (Castro 2012, 2011, 2010) I have addressed the social construction and marketing of the Internet user as an active agent in digital circuits and networks. As I have observed over research, the consolidation of the multimedia integration as a result of digital convergence and cultural transformations in progress gives rise to the role of the internet user as an inter-actor and promotes new modes of sociability and consumption habits. Previous works (Castro 2010a, 2009 and 2007) dealt with the reorganization of the recording industry amidst the growing preference for digital music and online file sharing. This personal route of research reflects my continued interest in the articulation between media and consumption in the production of new models of subjectivity which are compatible with the demands of the market, as well as in the modes of resistance to prevailing standards.

Lifestyles and modes of being for sale

As a psychoanalyst, Rolnik (1997) reminds us that "there is no subjectivity without a cultural cartography that serves as a guide, and, conversely, there is no culture without a mode of subjectivity that works according to its profile. Strictly speaking, it is impossible to dissociate these two landscapes" (p. 29). Commenting on the psycho-cultural effects of economic globalization, the author highlights the production of what she calls "ready-to-wear" identities (Rolnik 1997, p.22) for the consumption of subjectivities which operate in the ever-changing orbits of the market.

According to Arruda (2004), the practice of advertising can be regarded as the packaging of the capitalist system. In relevant study on the legitimizing strategies of capital in the last three decades in Brazil, Mota Rocha (2010) analyzes social responsibility and quality of life as the key values that inform advertising from the turn of the 1980s onwards. Consistent with the prevailing neoliberal ideal, the main purpose of these narratives is to "build goodwill in public opinion – and to convert some of them into effective consumers of products and services" by means of the image of a "fulfilling life" (Mota Rocha 2010, p.13).

Lazzarato and Negri (2001) analyze life forms and the production of subjectivity nowadays, noting that capitalism is no longer focused on production, but on products. The authors remind us that "marketing is no longer just a sales technique, but a device for the constitution of social relations, information, values for the market" (p.64). According to the view of these Italian researchers, who support the argument proposed here, the mercantile logics wants to rule the social, political and communication processes by investing on individual and collective subjectivity.

In his reference work on the subject, Latin American García Canclini (1996) demonstrates the thesis that "consumption is good for thinking" (1996, p.51) and for creating citizenship. Arguing in favor of a multidisciplinary approach to the communication processes, which takes into account the studies of consumption, the author states that "communication is not effective unless it includes the interactions of collaboration and transaction among people" (1996, p.52). In a more recent book, García Canclini (2008) reflects on the hybrid aspect of the experience of the internet user defining him or her as a "media agent that reads, hears and combines various materials, originated in reading and media spectacles" (2008, p.22). In this reflection the author evaluates the current reduction of the influence of the school, which is losing ground to both the mass media and the digital and electronic networks of communication. In García Canclini's words "in a world (that is) increasingly interconnected and governed by exchanges of commercial order", we watch the conversion of "all settings into places of purchase and sale" (2008: 23). In this context, young people acquire in the extra-curricular screens a broader formation in which knowledge and entertainment intertwine." However, the author recognizes it is not easy to switch from "fuzzy connectivity to critical thinking." (2008: 24).

The ability to effectively combine the allure of show business and the interactivity of instant and ubiquitous communication networks forms the basis of marketing strategies such as viral and buzz. Although some authors (Jenkins 2006, 2008; Shirky 2011) hail the 'cognitive surplus' of 'participatory culture',these are actually the cornerstones of the intertwining of business, communication and sociability in digital social networks. The internet user is the key target of transmedia storytelling, a genre in which narratives unfold through multiple platforms. This has been widely explored by the entertainment industry and also by marketing experts. As Andrejevic (2011) demonstrates, exploitation also happens in social networks on the internet today as user-generated content can easily be co-opted as added value by brands and business of all kinds..

Entertainment, sociability and consumption

Brands like Apple, Coca-Cola, Harley-Davidson and Montblanc, to alphabetically name just a few of them, are well known to congregate and encourage the loyalty of legions of customers turned into admirers and faithful fans. More than simply promoting products or services, we can see in these cases a successful effort to build modes of being with which consumers can identify, attracting them to the symbolic universe of the brand. By analyzing this kind of strategy, we find it encourages the consolidation of a type of social agent who is drawn to more personal and direct involvement with the intangible aspects of a given brand.

From client to fan, from buyer to keen collector, from consumer to collaborator and main advertiser, digital culture makes available to the market a range of interactive processes that can be fostered and taken advantage of. These can either help boost the prestige and reputation of a particular brand, or contribute to its demise if dealt with in an inappropriate way.

Traditionally, marketing communication has used the model based on the interruption of media programs (radio and television, for example) for transmission of commercial messages. However, sponsored programs – like the famous 'soap operas' – have also been part of the marketing business for decades. Among other factors, the proliferation of channels and the competition from the Internet have helped to destabilize the traditional invasive model – even though it has not been abandoned. It is now necessary to invest in consumer seduction by inserting marketing content in the actual script and plot of cultural products. The consolidation of the mass media entertainment industry and the marketing opportunities offered by the appropriation of social networks contribute to destabilize the frail boundaries between business and cultural content.

Experience with hybrid formats has lead to *advertainment*, such as the now classic short films made by big names in the movie industry for BMW cars [1]. Shown in two seasons at the company website by software that was specially developed for this purpose, these films became a huge success in audience and critique, spreading like viruses online. The BMW Films – now part of the permanent collection of the New York MoMA [2] – triggered the production of countless spoofs. This is the ever-renewed process of meta-language and inter-textuality that characterizes media production nowadays.

Life's for sharing

Analyzing the changes in advertising communication in the context of what he calls "niche civilization", leading Brazilian advertising expert Nizan Guanaes (2012) observes that "monologue is turning into dialogue. Propaganda is becoming content and content is becoming propaganda ". In his speculation on the future of advertising published in one of Brazil's leading daily newspapers, Folha de S. Paulo [3], the controversial star professional teaches that "the digital (arena) is not a piece, it is the whole, the large hub"[4]. Given that a hub concentrates traffic on a given network, this conception of the digital arena justifies the investment in the development of new formats in the field of marketing and advertising.

A relevant example of viral marketing is the Life's for Sharing campaign [5], developed for T-Mobile, a German manufacturer and mobile phone operator. Built on the innovative format of flash mobs, the campaign featured the production of shows that were meticulously choreographed to seem spontaneously triggered amidst everyday situations in urban centers. The film titled The T-Mobile Dance [6] was launched on a specially created channel on YouTube in January 2009. It quickly generated a record number of views. The campaign teaser and the making of the footage [7] were also readily made available. All this contributed to the consolidation of the buzz that triggers the viral spread of content in social networks in the Internet.

A few months after this action, a call aired on television – and also on YouTube – inviting the public to participate in the next stage of the campaign. Referring to the success of the previous action on the London Underground, the video [8] informed the day, location and exact time the next action would take place in central London. The strategic use of inter-textuality in this type of action was remarkable. The Trafalgar Square Sing-along [9] brought together thousands of people – including some celebrities – who sang an old Beatles hit. Among other factors, a specially designed giant LED screen displayed the lyrics of Hey Jude, as well as flashes of the singing crowd. The resulting commercial was then aired on television in prime time, while extended versions were made available on the company's channel in YouTube.

The next film [10] was set at an arrival lounge in London's busy Heathrow Airport. Welcome Back involved a choir of 300 voices singing a capella while keenly simulating orchestration. The result was an unexpectedly warm welcome song that greeted passengers, crew and public in the airport lounge.

Meta-language was also used in this campaign in order to take advantage of the commotion caused by the Prince William's wedding. The caricature version of the royal wedding conveyed by T-Mobile [11] was actually inspired by an earlier viral phenomenon in YouTube which featured a very unusual choreography [12] displayed at the entrance of bride and groom, minister, parents and relatives in a religious ceremony in the U.S. In tune with the culture of spoofs based on media products, the campaign broke new ground by giving up the successful blend of spontaneity and simulation in public space that was a main characteristic of its previous films.

A more recent case of viral strategy can be seen in My Time is Now [13] , the international campaign launched by a major sportswear brand, which uses celebrities from the world of football and interactive resources to pass along in order to lure internet users around the world.

Advertainment in Brazil

A good example of a Brazilian *advertainment* was aired in 2011 for a Japanese automaker. Created by Lew'Lara\TBWA, the nonsense appeal of this commercial [14] poked fun at competition by claiming other pick-up trucks (instead of Nissan's Frontier) display pony instead of horse power. The call to action urged viewers to render the film viral in social networks. Otherwise they would be cursed by an evil pony that would make the annoying jingle stick to one's mind forever. These strategies helped make The Curse of the Ponies a reference case in Brazilian advertising, taking it to Twitter´s Trending Topics and boosting sales in alleged 81%.

To keep the buzz going, special versions of the jingle were produced for free download during carnival, a major popular festivity in the Brazilian cultural scene. As with any successful campaign, a sequel was aired on national television in early 2012 for the launch of the 2013 Frontier. The new 30 second film featured the colorful toy ponies in an epic battle scene. Wagner's Ride of the Valkyries in the background, the cute ponies charged heart shaped arrows at the driver of a pickup that was stuck in the mud, resulting in a major flow of glitter.

An extended version of this film was released in YouTube, as it happened before, and this time the curse of the diabolical pony was issued in the form of the Hyponeitizer, an app that would spread the "meme" along to one's selected friends on Facebook.

Unpredictability is always part of the rule of the game in advertising communication. However far one may go from a creative idea developed in keen professional mode of production, one can never tell to what extent the phenomenon of viral spreading will occur in a campaign of this kind. There are always many imponderable elements at play in this sort of activity.

The CONAR (National Council of Self-Regulation) officially defines itself as a "non-government organization that seeks to prevent misleading or unfair advertising to cause embarrassment to consumers or businesses"[15]. The Council registered consumer dissatisfaction with the Nissan campaign[16] due to its association between children's characters (small toy ponies) and the figure of evil. Although the members of the board unanimously decided to file the complaints[17], this case highlights the thin line that separates sarcasm and irony from offense. It also portrays the complexity of the process of receiving and decoding communication.

Developed by NeogamaBBH for a well known brand of Scotch whisky, Keep Walking Brazil was specially targeted for the second largest group of its consumers in the world. Brazil is behind only the USA and ahead of the other 180 countries in which the brand is marketed. For this reason, this was the first time a commercial for this award winning international campaign was produced outside Scotland.

The film uses striking digital imagery to realistically transform the Sugar Loaf – a landmark of the city of Rio de Janeiro and one of Brazil's most widely recognized views abroad – into a giant who stands up and starts to walk. The Keep Walking campaign features celebrities of all kinds telling stories in which troubles or limitations are overcome. The metaphor of the giant who is no longer asleep can also be read as an incentive to the country as a rising world economy.

Part of the campaign involves the Keep Walking Club, located at the official website of the brand. It is advertised as "a special place for Johnnie Walker whisky lovers who seek personal development". Among the advantages of becoming a member, one can have access to exclusive content, free tickets to major concerts and sport events, as well as taxi rides as a courtesy on Saturday nights, in tune with the company motto 'If you drink, don't drive'. In fact, strict laws forbid drinking and driving in major Brazilian cities and government campaigns urge people to leave the car home when going out to socialize and drink in the evenings.

Fostering the strength of peer groups

It is important to stress the huge symbolic power in sharing sign elements which are capable of gathering people in the same group of peers, thus forming a 'community', a 'generation' or a 'club'. Since Napster – the pioneering application that, virtually without competition, unleashed online music sharing in the late 1990s – the involvement in this type of practice brings people together, encourages participation in networks of all kinds and promotes spontaneous collaboration among peers. This is precisely the point that works for viral campaigns.

One of the elements of success of the first online music sharing system was the personal and direct way Shawn Fanning (creator of Napster) used to end his messages to members, by always using the slogan Thanks for sharing. This was meant to encourage the maintenance of emotional bonds that underpin membership to affinity groups, fostering the habit of sharing all types of content in social networks – including audiovisual messages such as those mentioned above. From the standpoint of its producers,

it is intended to be an engaging and non-invasive way to communicate with consumers. The idea is to make the message relevant and interesting to a particular brand in order to not only attract attention but, more importantly, to engage the consumer as a partner and fan. By spreading the word in content-sharing networks, this agent not only endorses the brand to his or her peers but also actively collaborates with it for free..

Connected consumers: risk or opportunity for businesses?

Of course, not everything is collaboration, praise or endorsement in the messages about brands, products and services that circulate in social networks. As an example, a Brazilian consumer who used the web to convey his dissatisfaction with a major brand of home appliances generated immediate excitement and solidarity. An incredibly large number of hits were received by what looks like a homemade video posted on YouTube. In this film [18], an outraged buyer shows a refrigerator that allegedly had a manufacturing defect. The large amount of messages of support that circulated in social networks bears witness to the impressive response from public opinion. The intense mobilization in the Internet [19] forced the company to apologize publicly in order to preserve its good reputation in Brazil. As mentioned earlier, this country displays a significant amount of social network users on the Internet.

A few years ago, a similar case got widespread repercussions on YouTube. This was largely due to creative and attractive way by which a certain musician who had his guitar broken during a commercial flight chose to convey his protest. After having complained unsuccessfully to several airline officials, he posted a video online in which he and his band appear singing a country-style song especially made to tell the whole incident in a funny way. Different videos were then released by the same instrumentalist, the last one of which contained a statement thanking the enormous wave of sympathy that had been coming from the four corners of the world. The humorous trilogy [20] has generated new sources of income for the author, as well as various types of related material [21]. Among these, it is interesting to highlight the video response aired by the guitar manufacturer [22], who used this opportunity to strengthen his brand's presence and credibility. United Breaks Guitars became a case study in the prestigious *Harvard Business Review* and is still considered iconic.

The ability to deal effectively with today's consumers who are Internet users and who publicly express their opinion about brands, products and services has become an indispensable attribute in the business world. Public appropriation may generate products such as fan fics — narratives that develop within the fictional universes shared by fans and admirers — as well as spoofs or parodies which are not always well regarded by the business world. Monitoring social networking is part of corporate strategies in various market segments. One needs to know how to be present on the network. It is also essential to know how to interact appropriately with the public in the digital arena. There are many pitfalls that can betray unpreparedness or inability, thus compromising corporate or personal image.

On the other hand, there are several cases in which covert marketing strategies modulate participation in social networks as well as spontaneous collaboration among peers. A striking example occurred a few years ago in Brazil. A hoax was created as part of a publicity campaign for a popular Brazilian soft beverage made from *guaraná*, a fruit from the Amazon forest. During a visit by former President Bush to the country, a viral message of protest was quickly spread in the web. It described the (false) distress caused to the ecosystem in the Amazon by an alleged American company [23]. The case rendered wide media response [24], having ended up in the local political scene by means of an angry speech delivered in national Parliament. Only weeks after that it was disclosed that the so-called protest had been all made up as part of a clever (albeit politically irresponsible) advertising strategy.

To conclude this discussion on mobilizing consumers who are users of media and display the ability to issue, publish and share content at large, I would like to highlight the need to discuss a variety of strategies that rely on the logics entertainment and make use of the digital networks of communication, sociability and consumption. Implicit in these strategies is the formation of a certain kind of subjectivity that merges distinct characteristics in order to foster and conjure consumers as partners and fans in social networks.

Notes

1   http://www.bmwblog.com/2009/08/25/video-collection-bmw-films-the-hire/

2   http://www.adweek.com/news/advertising-branding/bmw-film-series-inducted-moma-collection-64728

3   http://www1.folha.uol.com.br/colunas/nizanguanaes/1097000-o-futuro-da-propaganda.shtml

4   Free translation.

5   http://www.youtube.com/lifesforsharing

6   http://www.youtube.com/watch?v=VQ3d3KigPQM

7   http://www.youtube.com/watch?v=uFNM819WnI

8   http://www.youtube.com/watch?v=sl_dFP5GKLo

9   http://www.t-mobile.co.uk/sing/

10   http://www.youtube.com/watch?v=cz8LvlNxxnw&feature=related

11   http://www.youtube.com/watch?v=Kav0FEhtLug

12   http://www.youtube.com/watch?v=P4Cmi2oVLU4

13   http://www.youtube.com/watch?v=QMv8g8CO4cQ

14   http://www.youtube.com/watch?v=X3yGSJE53kU

15   www.conar.com.br

16   http://info.abril.com.br/noticias/internet/conar-vai-investigar-poneis-malditos-04082011-15.shl

17   http://www.correiodoestado.com.br/noticias/conar-arquiva-denuncias-contra-poneis-malditos_126543/

18   http://www.youtube.com/watch?v=qPt1E_3g7ac

19   http://www.exame.abril.com.br/noticias/critica-leva-brastemp-ao-topo-do-twitter

20   http://www.davecarrollmusic.com/ubg/

21   http://bigbreaksolutions.com/

22   http://www.youtube.com/watch?v=n12WFZq2__0

23   http://www.arkhosbiotech.net/

24   http://www.g1.globo.com/Noticias/Politica/0,,MUL16083-5601,00.html

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Chapter 5
The mediatization of reception by Brazilian online collaborative journalism: rules and protocols to control reader's participation

Paulo César Castro
Universidade Federal do Rio de Janeiro (UFRJ) (Brasil)
pauloccastro@hotmail.com

Introduction

A new communicational scene has taken shape in the last three decades, with the emergence and consolidation of computer-based technologies, so as to put media and its logics as essentials arrays of social functioning. In the media field, the journalism is significant sector of the way is being setting new patterns of reality's discursive construction and, therefore, of references for social actors, as individuals and institutions. But if the changes happened in discourse's production, the reception field also did not pass unscathed through this gale of innovations based on digital resources. By the way, the notions of production and reception, as well as before marked out by way how those functions were performed, they are today in a theoretical and methodological deadlock. If who receives the media's speech can be the same one that produces it, then how nominate this double and simultaneous acting?

It is not by chance that, at the communication study area, in the face of new discursive practices and new social arrangements, some concepts are being rethought about its capacity to investigate media and social phenomena. It is what happens, for example, with the mediation concept. Forth primacy of relationship between man and technologies, it gives way to mediatization conception.

The acting of social actors in this new scenario may mean definitively the democratic space for the voice of a reception's sizeable portion which before was "strangled" by the media model that always benefited the emission. But what to extent the handling of this technological media equipment does not limit the freedom of the receiver's acting, when request their submission to some technodiscursive protocols? The journalistic media has had to put into practice with the readers interaction's levels never used before, established through the increasing, in their online versions, of zones for news comments and even spaces to sending content investigated for own readers. To cooperate with their collected information, however, the receptors have to submit themselves to private rules of the journalism field, so that their contents are not going to be regarded as "banalities", but as "journalistically relevant".

To talk about these issues, pointing to mediatization of reception, let's work with the following cases: *O Globo* and *O Dia's* websites, both published in Rio de Janeiro, and G1, TV Globo's journalism web portal, the biggest Latin American channel. Before, however, as a basis to show the general social scene where the changes happen, we will introduce the issues concerning *mediation* and *mediatization* concepts. Furthermore, the second one is fundamental for the study submitted here.

From mass culture to mediatized culture

Due the centrality of media – more intense in the last 30 years – in the cultural and political scenario, as from their new organization and structuring procedures of their social-symbolic activities, new theoretical and analytical models have been demanded. With them, it seeks understand how the functioning of contemporary society, named "post-industrial", is definitely submitted to the media logics. For such, it's necessary considering that, even in the presence of traditional ways of representing the reality, the public space is made for earlier ways that, mainly because based-computer technologies, provide the virtual, simulation and telereal. Thus, a particular type of interaction is established, as Sodré (2006) defends, characterized "by the tendency to the virtualization of humans relantionships" (p. 20), called mediatization.

The word is the epistemological way out for analyzing the socialcultural changes based on the relations between man and new technologies, that were transformed into means of production, circulation and reception of discourses, and that cannot be understood anymore only under the theoretical framework of mediation concept. The mediatization is, thus, the consequence of technoculture's emersion, which set up "a new perceptive and mental technology, therefore, a new kind of individual's relationship with real references and the truth, that is, another anthropological condition" (p. 23). As a result, the social interactions do not happen only through social ties; they are based on sociotechnical connections.

Based on Aristotle, Sodré (2006) goes further and defines the mediatization as a fourth way of human existence, a new bios that, with its symbolic shapes, inaugurates a new ethos, establishing a cognitive environment that guides the knowledge, the sensibility and the individual actions. This new existential sphere, to which the author calls 'virtual bios', is made of digitized flows and artificial nets, described "as a 'soft' materialization, or even as an immateriality, of the electronic circuits" (p. 24). It is (Sodré, 2006a) "a kind of affective community with technical and marketing nature, where digital boosts and images turn into social practices", albeit in the other parameters (p. 99).

> Under the reality's informational production aegis, the techointeraction – understood as hypertrophy of technological organization on institutional aspects of social mediation – take the place of mediation, diverting political actors of the representative concrete practice (guided by valuative or doctrinaire contents) to the imagery performance, that is, to the spectacle transformed into social relationship. (2006a, p. 161)

Another perspective enables, still under the search of understand the phenomena of collective production of meanings in contemporary society, to reflect about the change from mass culture to media culture. Taken as stage of modernity development, the mass culture represents a moment when the cultural products are industrially elaborated and destined to big parts of population. Mata (1999) says that it is a culture that, around messages produced in a pattern way and consumed, more or less, indiscriminately, gives meaning to the linking ways between the individuals, to the time divisions, to the public and private space organization, to the legitimation ways, to the setting of public action's models and so forth (p. 81). It's a culture articulated around media and technologies as a new array to the symbolic production and that gives rise, according Martín-Barbero (1986), the proposal of the mediation concept, to examine the relation between processes of mass media meaning production and another everyday practices of signification.

Media culture, in turn, means a stage, most advanced, in which technologies and institutions designated to the production of messages were increasing and in which it was expanded the use and consumption of these technologies and media. The scenario where media exists means much more, it reveals a new way in the interactions design, a new model of social practices structuring. As proposed by Verón (1997), if institutions and individuals are affected by media, media is also affected by institutions and individuals. The author still asks it is also taking into account that institutions are affected by individuals, and vice versa, and that institutions-individuals relationship is, likewise, set by media. Therefore, the dynamic and logic of culture media are central feature of social organization itself.

> If before the typical institutional mediations of several social institutions, to which the audiences belonged, were very important to define and guide meaning productions, as school and state, for example, now these representative institutions of modernity and of past century have lost strength. At this point of debate, it does not matter that have been the globalization or the market, or the specific stage of capitalism, because what disorder is precisely the traditional planning of mediations. In this game, the technological mediation acquires perhaps excessive importance, while other mediations almost disappear or entrench themselves in fundamentalisms from where seek to have some sort of chance to affect the social exchange as a whole. (Gómez, 2006, 89)

From Sodré's idea about *ethos*, media can be taken as responsible for producing and organizing rationality of meaning, even being able to make the mediatization of experience. As Neto (2006) suggests, the transition from a socio-organizational (*media culture*) to another (*mediatizated culture*) means a change from linearity stages to the discontinuity stages, "(...) where communication concepts, related to homogeneous wholes, give rise to the fragmentation and heterogeneity concepts" (p. 3).

Therefore, in a media society, despite of the field's autonomy where they take shape, media are meant as *supports* of a mediating and representational power, as "carrier senses". The difference is that, in mediatized culture, media become *actors*, Fausto Neto (2006 and 2008) suggests, as result to the increased use of technologies as vehicles to connections and flows (p. 8 and p. 91).

Mediatized reception: when the reader is the protagonist of the "news"

One of the main expressions of mediatization has taken place through traditional media – mostly in the journalistic field –, that extend their acting to the digital systems scene, such like the internet. It is almost a rule that newspapers, TVs channel and radio have websites and, through them, improve their classic discursive, political and social acting. The opposite way also got a highly dynamic mark because the institutions and the individuals began to have, in the media technology, symbolic media spaces of their daily social practices that get formed through networks, blogs, wikis and websites, in more general terms. In other words, the social actors start to move for the mediatical logic, using their techniques, operations, strategies and protocols, acting in a space and making use of instruments before mainly operated for journalists. The mediatization means that the codification of reality, before a fundamental prerogative of production field, becomes a practice also of the reception field.

How they know the dynamism of the reception inside the mediatized technologies, the media have been practicing, with a bigger or lesser effectiveness, the interaction with the readers, dynamic which establishes as one of their most highlighted signs. Through the interactions that the internet gives, for resources offered by the journalism or not, it is set what Sodré (2002) defends as a tendency of virtualization or telerealization of humans relationships (p. 21). In this way, the journalism has been one of places where happens the mediatization reception because, through the websites of their traditional media, the users are invited to be install themselves inside of productive system, assuming, in theory, the role of co-operators of the enunciation. Spaces for news comments were available to them, amplifying what, in the print newspapers, is known traditionally as "Letter for reader" section, and even with the possibility of "news" production, phenomenon qualified as participatory or collaborative journalism.

This is one of the four aspects that defines what Neto (2008) calls of settings of media "analytical" (p. 96). To the author the new position of "reader as protagonist" represents the dilution of the borders which clearly demarcate the place of producers and receptors of journalistic speech: "Such mutations change, significantly, the identities of these actors and even their discursive positions, as enunciator and enunciate" (p. 100). This characteristic, establishing a supposed symmetry among the producers and users fields, is also emphasized by Orozco Gómez (2006).

> The informational mediation (digital) is based on the interactivity that seems to reduce the borders between the producers and consumers of knowledge by offering the sensation of being not only the receptors, but also the senders of the knowledge built. (p. 89)

But the same Mexican researcher does not take this scene as the arrival to the perfect stage of the interaction between production and reception. For this, he asks himself if the new technologies allows, in fact, change deeply the conditions of knowledge production or just provide some categories of freedom and creativity always fitted as "conditions that was not neither from our production nor from our choice" (Orozco Gómez, 2006). Neto (2008), likewise, considers that, although the 'invitation' to the user, "it's necessary not to forget which are the rules that define your inclusion and that the choices of your production are ordered according to postulates which remain in the range of productive system logic properly". (p. 85)

Enumerating what calls of skeptical opinion of some authors, Schulz (2004) points that the new media produce new languages and rules of interaction which shape and, to a certain extent, standardize the communication in the environments created for them. "The restriction that the new media impose to the communication process take to the new ways of dependence and heteronomy" (p. 96). So individuals and organizations have to subject to media's logic.

The reader is also the reporter

On February 22, 2000, the south-Korean journalist Oh Yeon Ho, after 20 years working for the printed magazine *Mal*, decided to have in the internet a capable resource of opening to him a new space for professional acting. For this, he created OhmyNews, news website that, in an unusual way, had its content produced for people without any journalistic graduation. The fundamental characteristic of the website, even if it had a team with about 65 journalists to produces the news, but mostly to edit the material received, was the collaboration, based on the idea that each citizen was a reporter. So, beyond consuming news, the site gives also to the users the opportunity of producing them. Oh Yeon Ho comes to reconsider the historical concept of journalist: "A reporter is not a special kind of person. A reporter is any citizen who wants to take news and convey it to another person".

The south-Korean website is one of the landmarks in the visible beginning of mediatization that is affecting substantially the ways of journalism, through its information collection practices, of news production and writing and, consequently, of journalist function. It establishes, on the other hand, an important change in the role of the media receivers that, of traditional condition of passive, start to have a role even more active in the relation with media and with content that are available to them. These changes have their base founded in the technological possibilities appeared with what is been called as Web 2.0, that, associated to the popularity of cameras and digital video, cell phones and other technological gadgets, allows receivers to get a position of content producers.

OhmyNews created the proposal for a new model of journalism, made possible by a net structural which connects specialized people with lay public. Based on this and others initiatives in what the content comes from public collaboration, a lot of traditional media, starting from their online versions, gave the opportunity to the citizen participate, with comments about the news production or with the creation of spaces specifically for the production of content by own receive.

Such scenario has been making possible, according Correia (2008), a lot of nomenclatures for the journalism, as *citizen journalism, networked journalism, open source journalism, grassroots journalism, participatory media* and *participatory journalism* (p. 13). The most general term citizen journalism is used to designate the production and diffusion of information by citizens who does not have a journalistic graduation or who are not linked to the traditional media. With the new collaborative resources and the easy access to equipments with multimedia resources, the information's production, thus, is no longer exclusive of some social segments, as the journalists, and goes to the hands of any citizen who has access to a computer with internet.

As Correia (2008) explains, "the information belongs to the person who finds it and can be transmitted by all, requiring only an internet connection" (p. 5). It is no coincidence that the Time magazine elected "You" as the personality of 2006, a tribute to the contribution of ordinary citizen in the production of internet content through blogs, videos sharing website as Youtube and social networks as MySpace.

Between the visible opposition from those who praise the democratically potential of the collaborative media and those who deny the importance of the changes made by the citizen journalism to the practice of the profession, it is possible to see clearly the attempt of traditional media attracting the reader's participation, using the resources for collaborative productions. Under those transformations, several big media journalistic, around the world, began betting on a collaborative communication model, opening their online versions to participation to the readers. It was the case of two of the largest newspaper in the world, *The York Times* and *El País*, and, in the case of Brazil, *O Globo*, besides another.

However, a question that must be done is if the contents produced by the citizen and sent to the websites of traditional media, and sometimes used in its printed versions, as texts, photos, videos and audio, necessarily can be consider journalistic. It is important the question if such contents are appropriate to what is traditionally called of "news". Is it possible to say that citizens are submitting themselves to the journalistic logic when they are selecting what will send to the websites. So they have introjected, consciously or not, what can be for journalistic interest.

The mediatization of reception in three moments

The mediatization process of reception by Globo Organizations's [1] news media began in 2006, when it was created the newspaper *O Globo* and G1's websites. G1 is the portal website of Globo Journalism Center. In that year, individuals and institutions participation in the media scenario established by internet were already pronounced through blogs, photologs, wikis and so on. These resources promoted a wider variety of subjects and a more horizontal performance, with plurality of voices in the internet environment. In the Globo's [2] online version, it was created "Eu-repórter" (I-reporter) section, and G1 creates an area called "VC no G1", whose slogan is "Send your feature story to the G1 and become a citizen journalist" [3].

"Eu-repórter", *O Globo*:
from *news* to *content*, from *journalist* to *user*

With the "Eu-repórter" section, readers are invited to send information to Globo's website. Whether approved by editors they can be posted on the website and also in the pages of other Infoglobo's press media. The company manages, publishes and distributes *O Globo*, *Extra*, *Expresso* (whose circulation area is in Rio de Janeiro) and *Diário de S. Paulo*. In the text inviting readers, entitled "Eu-repórter: know how to turn your flagrant into news", the website journal says:

> Here you are who makes the news. This is the Eu-repórter rule, the Globo's participatory journalism section that opens an exclusive space to what makes the difference in your day by day: from denunciations against irregularities in transit to misuse of public funds, until problems like crowded subway (the website accepts a photo, **ok**? [4]) and the airport parking rate that keeps increasing (**such that** to click on the little sign with the values? [5]). All that with the strengthening of a reporters team that, in newsroom, selects, checks and organizes the content received, providing a service to the all readers from your denunciation.

Thus, O Globo tries to simulate a symmetrical relation, by intimacy with which it talks to receptor through the personal pronoun "you" and even through the colloquialism ("ok?", "such that"). The initial statement "Here, it is you who makes the news" also intends to establish an equality between readers and journalists, process to which Fausto Neto alludes to, in so far as collaborators, as well as the newsroom employees, also produce "news" and not only any content. To reinforce this aspect, the newspaper announces that texts, images, videos or audios published will be signed, reader earning the credit which much distinguishes the journalists between their pairs and between the readers. So the collaborators have the gratification to see their names associated to the "news".

When the reader have to send any content to the newspaper, to which it is necessary a registration on the website, then he will know that needs to submit to the "Commitment Terms and Copyright" of Infoglobo Comunicação e Participações S/A, where are defined the participation rules. In this document, *O Globo* takes care of defining the channel that it opens to their visitants: "Eu-repórter is a vehicle of participatory journalism to readers who want to contribute with texts, photos, videos or audios to the news of *O Globo* site".

However, the reader has to fill some prerequisites for using the collaborative area, so that he is framed under the newspaper's discursive logic and the most general journalism. Beforehand, the reader interested in submitting information to the vehicle is alerted that only will be published contents "with news characteristics, never opinionated", even if to he is not given parameters that make different the news of the opinion.

It is also symptomatic that, in this document, the term "news", present in the section's slogan ("Here you make the news"), is not used in any moment. In the part of the contract called of "Object", in other words, where is defined the type of available space for the readers, "news" is called of *content*.

> (...) The object of the present contract is the provision of in an electronic environment by INFOGLOBO in which the **USER** will be stimulated to produce such **contents** – videos, sounds and pictures – and submit them to the INFOGLOBO, that can publish them at the site O Globo and at the newspapers O Globo, Extra, Expresso and Diário de S. Paulo.

In the most recent version of the contract, accessed in July 2012, a lot of topics were excluded, leaving it more concise. The before version was much more strict in the way how established the "rights" and "duties" of the user (so then the reader is called in the contract). It is forbidden for him to submit "false, ambiguous, inaccurate, exaggerated or inopportune contents, so that they can induce to mistake about their object or about the USER's intentions or purposes" and that "constitute illicit, tricky, disloyal publicity, generally, that shape a disloyal competition".

Therefore, the reader has to assume the same attitude required of the journalist, even if this gives them more duties than rights in this relationship. Despite taking economic advantage of the information provided by the reader, because he gives a "non-exclusive, free, non-revocable and perpetual license to the INFOGLOBO", the newspaper ascribed to the collaborator the responsibility "for any costs, losses or damages caused to third parties in consequence of the using of the services and/or available contents for any individual or company". Therefore, it was reader's attribution to be vigilant, as if he was a journalist, so that the information sent to the website have to had "accuracy, exhaustively and/or relevance", so that to did not incur the "inadequacy for any purpose" and "non-achievement of expectations created".

"VC no G1": from *feature story* to *material*, from *citizen journalist* to *internaut*

For submission of material to the "VC no G1", the reader needs to do previous register, having also to agree with the terms of use of Globo Comunicação e Participação S.A. The "material", denomination that, in the contract, the "feature story" assumes, "can be or not select and, consequently, used or not for GLOBO, to their exclusive criterion and without term limit". With a text very similar to the 'Eu-repórter', the G1's collaborative space term defines that the 'internaut' (so then the "citizen journalist" is called) "gives to the GLOBO, automatically and for free, a unrestricted, irrevocable, untreatable character, a license for it use/fix the Material, in full or parts, in audiovisual works produced for them, henceforth called WORKS, and/or in web portal well as the others finalities predicted in these instrument".

The reader should not try to charge any money for the material sent. The company anticipates itself and informs that the 'internaut' will not receive any remuneration or compensation, even if Globo makes any economic use of the content, "being able, for example, to broadcast via any kind of TV (broadcast or cable tv, through all the existent ways of transmission), in internal-circuit, voice portal, print or electronic media, mailing, and so forth, to fix it and sell it in any type of material support, store it (including the internet database), associate the Material to any kind of advertising, develop any licensing activity of products and/or services derived from the Material, disseminate it through the Internet, Internet Protocol (IPTV) and/or any telecommunication system, fixed or mobile, assign rights to the Material to third parties or give it any other use, being able yet to reduce, change or editing".

In the G1 case, beyond the images, videos and audios files, the reader needs to give a headline, describe the content and inform the date, the state and the city where happened the event. To send the material, it is necessary to make a registration. To the reader are introduced "tips" that organize journalistically the material that will be sent.

TIPS

It is important you give details so that we can understand better the content of your collaboration.

Remember to tell about **who** you're talking, the **subject** of the content, **where** is happening, **why** and **how**.

When you're sending photos and videos, don't forget to **describe** in your text the scenes showed at the pictures.

Be **direct** and **simple** when you're telling your story; make a script before the recording of a video may help.

Check the sharpness of audio and image of your video. A good lighting is very important for video's quality.

The instructions once again are given as the criterion of journalistic production, present through the required details of the participant and which reproduces the typical formula of the inverted pyramid: "who", "what" (the subject), "where", "why" and "how". The "when" must be informed in the form item signed as "happened at", where a calendar is showed. The reader, also here, needs to submit to the logic of journalistic language, even if is not clear to him that the "details" are key parts of the enunciation of this field and that are present at the first news paragraph, called of lead, and in the reverted pyramid logic. To reinforce the mediatization of reader, to him is recommended to be "direct and simple", as well as he should be able to subtitling his images, making a script to video and produce with good quality his audio and videos. It is required from the reader, thus, the submission to a typical format of enunciation, specific of private system of signs that defines the journalism genre.

So, if the receptor wants to collaborate with the newspaper and with the TV Globo's journalistic portal web, is necessary to submit to more general rules of the contract and to those that guide the journalistic field, in a typical case of heteronomy. After all, the vehicles take care in "educate" journalistically the collaborators, showing veiled to them, without deeper explanations, the filters that must direct the 'news' selection and that any journalist already knows (or must know) when starts to act in the profession. The logic of newspaper enunciation must be at least learned for the reader so that he can take part in a discursive scene which is being offered to him. So the given options of participation turn to be limited because, as Gómez and Fausto Neto defend, they are made available since they respect the conditions ruled for the media discursive protocols.

"Conexão Leitor", *O Dia*: with the "news", the reader

The newspaper *O Dia*[6] created the 'Conexão Leitor' (Connected reader) space, whose slogan is "Here you make the news", the same enunciation of *O Globo*. Between the three colaborative spaces quoted here, this is the less stringent demand to the reader, because, to send the content, he only needs select one box, beside where there is the sentence "I authorize the publication of foto and text by newspaper O DIA and by O Dia Online". It is not necessary make previous registration, with login and password, to use the space.

HERE YOU MAKE THE NEWS

To collaborate with Conexão Leitor, **you** must fill out the form to send texts, photos or videos. It is important to mention the correct email adress and phone number. If there is interest, Conexion team can contact the internaut before publishing the material sent[7].

Less formal than 'Eu-repórter' and 'VC no G1' as regards the requirements of journalistic enunciation patterns, 'Conexão Leitor' requires the participant, besides one title for the content (identified only as 'Subject'), the photo or vídeo description, each with no more than 500 characters. If the 'Text' option is chosen, the reader will have a box to write the 'Text about news', with up to 5.000 characters.

Enunciative marks of the reader's collaboration: under the rules of the media

After known the protocols established by three communication vehicles to readers-users participation, we will evaluate now how 'news'/'feature stories' appear in collaborative journalism spaces. About 150 contributions are sent daily to 'Eu-repórter' section, mainly as texts and images. In terms of content, according Pimentel (2010), 90% of the information consist of events happen in Rio de Janeiro, typical of local section subjects, like fire, holes in the streets, irregularities in transit, problems in public transport, violence and alike (p. 48), as evidenced by titles below:

Story 1 – October 28, 2010, 16:59

TRANSIT

Reader registers accident with victim in Sulacap, west of Rio

• *O Globo, with photo by reader Caique Dias*

RIO – A man died and another was injured with the clash between a bus and a passenger car in Sulacap, west of Rio, in the early dawn on Thursday. The accident happened in the Marechal Fontenelle Avenue and was photographed by the **reader Caique Dias**, who sent the picture from his cell phone to Eu-repórter mobi address, O GLOBO's section of collaborative journalism. The wounded man was taken to Carlos Chagas State Hospital.

This text was written with the collaboration of a Globo's reader. Do you also want to participate and send your story?

Story 2 – October 28, 2010, 19:22

DIRT

Residents leave garbage on the street, waiting for collection, in Vila Isabel, North of Rio

• Text and photo by Edmilson Bonadiman

RIO – The anti-social conduct in Vila Isabel, North of Rio, scares. The Comlurb collects the garbage, in the 28 de Setembro Avenue, on Mondays, Wednesdays and Fridays, from 7 p.m. These days, the garbage is thrown on the sidewalk, in front of number 228.

This text was written by a Globo's reader. Do you also want to participate and send your story?

Story 3 – October 29, 2010, 12:06

CAR THEFT

Reader registers images of confusion after shooting in Humaitá, south of Rio

• *O Globo, with collaboration of the reader Rodrigo Antunes Fanaia*

RIO – On the night of last Thursday, when a shooting frightened Humaitá Street's residents, the reader Rodrigo Fanaia registered the confusion that has been established in the neighborhood. Police cars, agglomeration of curious and shot holes appear in video and photos that show the action by armed bandits who stole a Honda Civic car in Lagoa neighborhood and then robbed another vehicle, taking the victim's belongings. Police were alerted and began a chase that ended with a shootout.
(...)

This text was written with the help of a Globo's reader. Do you also want to participate and send your story?

All content submitted are first submitted to a screening, when those with 'journalistic relevance' are separated from 'trivialities'. The 'relevants' published has some differential discursive marks. The first is the way how they are signed. In stories 1 and 2, the reader name is clearly identified as *O Globo's* collaborator ("*O Globo, with collaboration of...*" or "*O Globo, with texts and/or photos...*"). *The other one is that, in both cases, the reader name is identified in the text itself*:

"(...) The accident happened in the Marechal Fontenelle Avenue and was photographed by the **reader Caique Dias**" – Story 1, (our highlights)

and

"(…) the **reader Rodrigo Fanaia** registered the confusion that has been established in the neighborhood." – Story 3, (our highlights)

The reader is still not, in these cases, duly 'educated' to the newspaper's discursive rules and, therefore, it was necessary most markedly to intervene in the collected information or in the written text.

With respect to story 2, only the reader name, accompanied by kind of content sent (*Text and photo by Edmilson Bonadiman*), appears. Thus, the newspaper is free to not put your mark beside reader identification. In this type of discursive strategy there is a clear valuation of the reader's modes of participation, defining those that, more or less, are ready for the newspaper invitation. The reader becomes more valuable when the 'news' goes beyond 'Eu-repórter' space, when it is published in the website's home page or, even more, in the newspaper print edition, even if it is accompanied by the icon that identify the online section. If the icon has the function to inform to the readers that the content comes from a collaborator (bonus to the newspaper by the 'democratic space' made available for citizen), the same time it makes clear the difference to the material produced by journalists. If there is some problem with information, the onus is only for the collaborator, as he must know by contract "signed".

On average, 3 stories are daily published on 'VC no G1', about 30 which were sent to the section until 2009, the editor-in-chief Márcia Menezes says. Seventy percent of the material received are not used because they are untruthfuls or self-promotions. Before being published, the stories are reshaped, but the journalist is oriented to change as few as possible the content. However, he needs check the reader informations with official sources (ASSUMPÇÃO and AMARAL, 2009, 8-9).

June 5, 2012, 13:26
"Car was completely destroyed", internauts reports after the accident in Rio

Karen Moreira da Cruz
Internaut, Rio de Janeiro, RJ

A clash between a car and a bus in Bangu, west of Rio, has closed the Brazil avenue on this Tuesday morning (5). The collision has happened on runway toward city center.
The 'internaut' Karen Moreira da Cruz was one of the passengers of the bus involved in collision and made photos of vehicles. "I felt the impact of the blow and went out to see what had happened. The car was completely destroyed. The driver was trapped in wreckages and the boy who was in the passenger seat was asking for help. There were many people around trying to help", says.

Newsroom note: *The Brazil avenue was closed in both directions around 8:20 am for the victims' rescue and, at 9:05 am, it was partially reopened. According to the Fire Department's press office, six people were injured. Two of them were taken in serious conditions to the Souza Aguiar Hospital, in downtown. The others four victims were forwarded to the Albert Schweitzer Hospital, in Realengo, west of Rio.*

In terms of content, 'VC no G1' also gives special attention to the local news, as the example above shows. The difference is that G1's space has more collaborations from several regions of the country. The stories, mainly with photos and videos, are divided in two parts. The information sent by 'internaut' are gathered in the first part. They are submitted to the marks of journalistic enunciation with the journalist 'reshapes'. The participants' statements, duly identified as internauts, appear in the stories, but by the way as they are used, the readers are not 'journalists', only sources.

The second part of the story, identified as 'Newsroom note', where the supplementary information collected by journalists are introduced, mainly from official sources, makes explicit the performance limits of the citizen journalist, at least under defined aspects by 'VC no G1'.

Around two 'news' are published daily in 'Conexão Leitor'. Most times, they are accompanied by photos, despite the possibility to post videos. The large part of collaboration also is related to the local themes, mainly about Rio de Janeiro city. The stories are short and not always answer all questions of lead. Differently from 'VC no G1', the texts are not accompanied of supplementary information collected by newsroom. The large majority of the stories have a identical structure: an opening text which presents the question sent by collaborator, usually pointed by photo, with the mark do journalistic enunciation, and a reader's statement, in quotes, to end.

> *June 9, 2012, 1:00 am*
> **Reader click: Wall may collapse over school**
> *Rio – The State School Souza Aguiar's students and teachers, in the Inválidos street, downtown, complain of excessive noise and dust from the neighbor construction.*
>
> *"It also happened an incident. Pieces of the wall dropped on the court and almost reached the students", Marco Aurélio Cunha says.*

Unlike the story 2 of 'Eu-repórter', but similar to 'VC no G1', O Dia's space submit the collaboration of reader to journalistic enunciation, no matter how small the text and even that not all information has been provided.

Conclusion

The mediatization of reception, for the journalism field, does not mean only occupation of an electronic environment, as the three vehicles here showed indicate, but the reader's submission to an enunciation that does not allows them to go further than the journalism classic patterns. Even being amateurs, without a journalistic graduation, the collaborators need to be aware to their contents obey the 'veracity', 'accuracy', 'exhaustiveness' and 'relevance', criteria, at least at a more clear way in the 'Eu-repórter' and in the 'VC no G1'. Despite the proposal of interaction with the reception – due the idea of access democratization, to give a chance to segments that were excluded before, or due an only marketing matter – the journalism seems to have as fundamental part of its worries the enunciation control, not giving a chance to the discourses produced by the receptors can run away of the logic that demarcates the own journalist field. So, it is through the heteronomy notion that is been conformed the collaborative spaces of media. The news, feature story and journalist notions that they have been proposal stay only at the marketing field. It was words whose social status is used on behalf of reader's capture, but that, in practice, do not become for them the exact definition that exists in the journalist field, at least in the way they are practised by the journalists.

The mediatization of reception is subject to a bigger logic that conforms the virtual bias proposed by Sodré, for the mediatizated technologies supremacy that has been building the scenario of current interactions, and the journalism, as we can see, is a essential part of these strategies. The invitation to the reception to take an active participation, as producer, in a wonderful world of media have a price: the nullification of all and any mark that can affect the legacy of what is called of journalism. As if, to keep as journalism, with its power of naming the real – even with the incorporation of those that always had a passive role in communication – , it was necessary ensure that nothing will go out of the script.

Notes

[1] With a presence in different segments of media industry, by newspapers, magazines, radio stations, broadcast television network, cable TV, internet, music label and so on, Globo Comunicação e Participação is the largest media group in Latin America and the 25th in the world, with billing of 6,5 billion dollars in 2011, according to the german institution Institut für Medien – und Kommunikationspolitik ranking (retrieved from http://www.mediadb.eu/rankings/intl-medienkonzerne-2012.html). The company was founded in 1965.

[2] The website, where news of the newspaper and also news produced by team's online itself are posted, was created in 1998. In November 2011, the website was completely redesigned and integrated with newspaper newsroom. O Globo was founded in 1925 and, in 2011, was the 5th best-selling newspaper in Brazil, with an daily average of 256.259 copies. In previous years, newspaper has achieved the 2nd and 3rd positions. (retrived from http://oglobo.globo.com and http://oglobo.globo.com/eu-reporter/)

[3] "VC" is the abbreviation of the personal pronoun "você" (you), commonly used in conversations on the internet. Ibope NetRatings researchs show that in April 2011 G1 had 12,1 million unique visitors and 292,8 million page views. The website was launched in September 2006. http://g1.globo.com/vc-no-g1/.

[4] "Vale uma foto, hein?".

[5] "Que tal clicar a plaquinha com os valores?"

[6] The newspaper was founded in 1951, in Rio de Janeiro, with strong populist appeal, mainly exploring news about violence. In 1983, it was bought by journalist Ary de Carvalho and went through an ample editorial and graphic reform, being driven from classes D and E to the class C. Thus, O Dia became one of the bestselling newspapers in Brazil. In 2002, it achieved the 5th largest circulation in the country, with 210.499 daily copies. The direct competition with newspaper Extra, launched by Globo Oganizations to prevent its growth, has made O Dia dropped to 21th position in 2011, with 50.288 copies. See http://www.anj.org.br/a-industria-jornalistica/jornais-no-Brazil/maiores-jornais-do-Brazil/

[7] http://odia.ig.com.br/portal/conexaoleitor/envio

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Chapter 6
A contract in transition:
online press and its audience

Natalia Raimondo Anselmino
Universidad Nacional de Rosario (Argentina)
nraimondo@conicet.gov.ar

Introduction[1]

For quite a few years, it has been announced (Igarza, 2011; Jenkins, 2008; Jenkins and Deuze, 2008) that we are at a transition period, in which a new media ecology is been built, more hybrid than the previous ones, for several reasons that, in a way, are dealt with in the different chapters of this book. In this sense, the Latin American media system is not an exception.

With this in consideration, it is proposed in this chapter to reflect on the way the newspaper-reader relationship is being re-defined, focusing on understanding the place – or the role – the reader's intervention and participation spaces (as we have decided to name the journal areas where the audience activity is materialized) have, within it[2]. As it is known, with the arrival of the newspapers to the web a progressive and exponential multiplication of the said spaces was observed, situation that also reveals and intervenes in – the complexity of the situation is such that it is impossible to recognize what determines what – the way in which the relationship between the press and its audience is been redefined.

With this aim, two central features were joined: on the one side, the reader's participation possibility conditions that every newspaper gives —from the particular arrangement of the reader's intervention and participation spaces— and, on the other side, certain recognition grammars (Verón, 2004: 41) that can be recovered from the reader's speeches that are materialized in the said journal areas.

Brief initial considerations

In order to specify the (theoric-methodological) place from which we began asking the questions that underlie this text, we will start by recalling that Luhmann (2000) was the one that took into consideration the massive media systemic quality. According to his opinion, as far as autopoietic social system —"that reproduces itself and it is no longer directed at communication between presents" (p. 21)—, the mass media are a "communication galaxy that has its own code" (p. 20), and its main characteristic is to create a "momentous illusion" since "the information that comes from the media is necessarily a construction of reality" (p. 22). Under this impression, in the media semiotics area it is used to say that we are at a stage of increasing mediatization complexity (Valdettaro, 2007), in which we can say the disappearance of certain limits within the different media. In this context, Verón's semiotics perspective is recovered — also known as socio-semiotics— (Verón 1998, 2004).

As it has been thoroughly analyzed in another research work (Raimondo, 2011), the strategy that each journal carries out helps to build up its 'personality' —a personality which is completely different to that of other journals with which the first journal competes— and, therefore, to shape the way in which the media is related to its audience, in this case its readers. Consequently, the notion of discursive strategy is linked to another term of the same value: the reading contract. Both concepts are related to the way each medium manages to build up its uniqueness against its 'rivals'. On the other hand, the notion of contract "puts emphasis on the relationship building conditions that, with time, join a medium to its consumers… The aim of this contract… is to build and keep the consumption habit" (Verón, 2004: 223).

Moreover, in order to establish successful relationships between the mass media system and the technological and cultural environment of an era, 'technology sociology' statements are recovered, framed under the umbrella of 'social constructivism'. These statements determine the need to stop considering technology and society as two independent domains, since the relationship between them is one of 'co-construction'. Thus, it is affirmed that "societies are set up technologically, exactly at the same time and level in which technologies are constructed and applied" (Thomas and Butch, 2008, p. 10). This perspective about the socio-technical, allows us to understand clearly —and without determinisms— the constant mutations concerning the media ecosystem. As Boczkowski (2006) asserts: "The media innovation is developed through the technology, communications and organization interrelated mutations… A new medium arises from those changes in that ecology" (p. 29).

On the other hand, it is implied that we live in highly mediatized societies, more and more pierced by media-technological convergence processes. This convergence represents a cultural change; that is to say, a modification in the logic with which culture proceeds "every time it encourages consumers to look for new information and to establish connection between dispersed media content" (Jenkins, 2008, p.

15). As it has been stated at the beginning of this chapter, we are immersed in a transition stage – a "between" (Jenkins and Deuze, 2008) – in which a new "media ecology", more hybrid that the previous ones, appears: a scenario full of contradictions that make it difficult to analyze this situation lightly. This hybrid characteristic is visualized with more sharpness when we focus on the considerable diversity of new 'objects' – a notion introduced by Manovich (2006, p. 58-59) in media analysis – which maintain different relationship levels with the traditional mass media – the television, the radio, the cinema and, of course, the press. In this scenario the so-called 'new media' appear, among which we can name the digitalized versions of the traditional media, the electronic journals, the social media – the personal blogs or social networks such as YouTube, Facebook, Twitter, Flick, etc – and the content syndicators. As Jenkins (2008) claims: "Welcome to the convergence culture, where old media clash with new media, where popular media crisscross corporative media, where the producer's power and the media consumer interact in unpredictable ways" (p. 14).

In this panorama we can glimpse what appears to be the other side of the convergence process in the production level: the reception divergence, as a result of more personalized consumption practices. In the same perspective, Verón (2006) claims the existence of certain "disturbances in the relationship between the media production and the consumer" (p. 39). This trend has been present since a couple of decades and has been slowly modifying the relationship between production and reception which began at the mass media times at the end of the 18th century: "The audience as it appeared, it disappeared and the consumer will be in charge of creating the schedule" (Verón, 2007, p. 40-41). This divergence is increased by the constant creation of new technical devices that allow people to access to the same content in different ways (notebooks, netbooks, smartphones, social phones, tablets, etc.). This divergence, it is clear, should continue being discussed and analyzed in the academic environment because even though, as asserted by Verón (2007), the relationship between media production and reception that has been in force for almost all 20th century has been altered forever and we are against an increasingly fragmented and individualized demand[3], it is also undeniable that at least in the last three or four years – especially since 2008 until present time— the audiences have began to share their consumption experiences through the online social networks. And that has changed all again.

The trend of establishing new kinds of social relationships through the web —at least in the youngest sections of the population—, is arising with more and more strength. These relationships are established, partly, in which Castells (2009) calls "auto communication of the masses" (p. 88). As noted by Igarza (2008) "the increasing population of digital natives has given a new boost to the group mania in the Internet" (p. 185), even changing the use we give to the network". The progressive predisposition to creating virtual communities has been therefore described. This phenomenon is not new, of course, though nowadays its impulse is much greater. For example, according to the last pieces of research about the situation of Internet in Argentina (IAB, 2011 and Irol, 2011) the social network related activity has been the one which grew the most between 2008 and 2010, spending 30% of the internet consumption time in the last months of 2011.

In this context, and as explained in a Pew Project for Excellence in Journalism report (Purcell, Rainie, Mitchell, Rosenstiel and Olmstead; 2010), the relationship between the audience and the news is becoming portable, personalized and participatory, with more presence of mobile access devices – smartphones, notebooks, netbooks, tablets – and a strong raise tendency in forwarding and content spreading through social websites like Facebook or Twitter. This, as claimed by Fogel and Patiño (2007), confirms that "in the Internet, the information is modified as it circulates" (p. 150). Unlike the almost immutable content offered by traditional media, "this does not happen in the Internet, where the answer joins the content that raised it on the screen" (p.150).

The press and its audience

For more than a decade, within the mass media system, a series of modifications in the classic press modalities have been evidenced. Gradually, the press left its position of Modernity-related institution, where it was a formation body of an audience potentially submitted to ratio (Valdettaro, 2005), evidencing the emergency of a contact discursive strategies group (Biselli and Valdettaro, 2004); that is to say, a peculiar way of setting up the enunciative link which is strongly anchored in the technology of image-sound live transmission imposed by television, "a kind of affective and personal appeal whose communicative efficiency is measured not in terms of manipulation, influence or persuasion but of

seduction" (p. 219). Time has passed and transformations distinctive of the Internet followed those made by the television. It is considered that we are before the creation of a new direction in the mediatization process that has characterized Verón for twenty years. Clearly, nowadays it has become more complex and thorough. It is worth noting that we call 'mediatization process' to the historical sequence of media phenomena, from the birth of the press (the first mass medium) to the present day and that has always been complex. Verón identifies a first change in the mediatization process in the 70s and 80s of the pass century, when the semiotic television register altered the established order between the mass media system and what was consider "real" extra-media (Verón, 2001; Valdettaro, 2007). Thus, today it is possible to state that the Internet/mobile devices/social networks group produces a new scale rupture in the established relationship between the post-industrial society institutions, which is also now a post-mass mediatized society, and the media ecosystem. We can also add that as well as the repercussions of the first change scarred for life the credibility conditions of the political system, the area that was most impacted is now the belief in which "the construction of the media truth plot" was settled (Escudero, 1996, p. 53), of that "external reception pact where the verification moment is [today we can say "was"] generally unfinished" (p. 53). Verón (2001b) also warned that it is in the circulation area where the symptoms first appear and the changes are more visible (p. 128).

As seen in previous research (Raimondo, 2009, 2010), ever since the newspapers arrived to the "cyberspace", the digital journals have multiplied their efforts to build a reading contract that allows them to maintain the relationship with the readers through time and thus escape from the pessimist predictions about their future (Raimondo, 2012). As the users acquire new abilities or 'practice' other spaces or media (blogs, Facebook, Twitter, YouTube, among others), the journals have been incorporating those modifications in one way or another. What was previously stated has been evidenced in the analysis of the reader's intervention and participation spaces disposition in *Clarín* as well as in *La Nación*, which allowed us to distinguish, among this online journals, a set of invariant disparities on which we will not be focusing on. Nevertheless, we will be devoted to point out a series of central aspects (in order to be brief and clear will be enunciated in items) in the definition of the current conditions of the newspaper/reader relationship.

The unit formed by the text-news has changed and we are, as proposed by Simone (2001), before a new "textually conscience" that enables new penetrability levels: not only allows its disarticulation, but also enables those "body of the text predators" (Simone, 2001, p. 139) which in this case are the user-readers, to leave marks on it. Nowadays, digital journals allow the readers' comments to interpolate within the article and together become a text that makes it possible to observe the circulation established between production and recognition of meaning. We take into consideration the changes produced in the circulation of texts that compose the articles of the online journals, which no longer can be consumed only within the framework of a newspaper.

Even though it is true that nowadays the journals give the reader more spaces to intervene, the discourse produced by the reader does not hold the singular statue that, within our culture, it is required to be entrusted with the journalist function. This function as well as the author function (Foucault, 1985), is related to a particular way of existing, circulating and functioning of certain speeches in society.

According to what we have observed in our research, the readers' opinion recovery in the plot of the informative discourse will contribute to what Charaudeau (2003) calls self-justification discourse (p. 38); that is to say, as part of the medium legitimation strategies and which, thus, in Luhmann's terms, contribute to the system's autopoiesis itself. The recovery of the audience's voice in the editorial spaces seems to match, from the point of view of enunciative strategies, with the characterization of the current television stage proposed by Verón (2009); that is to say, with the stage in which the recipient's individual world bursts into the media discursive strategies and works as an interpretant, in a Peircean sense, as a symbolized third one.

From the study of recognition grammars of the readers' comments in *La Nación* and *Clarín* (Raimondo, 2009, 2010), a series of "reader categories" could be distinguished [4], which will refer to different audience response logics to the media enunciative strategies that, together, reveal a kind of audience whose nature is more hybrid than the journal in paper. The online journals' audience is no longer limited to those readers with similar medium editorial ideology, but it also includes an increasingly heterogeneous group that includes users that choose the journal not necessarily because of its ideology; hybrid audiences (Mancini, 2011) also made up by those who arrive at the website by been sent by the random

algorithms of a search engine or the suggestions of his group of friends[5]. This situation, also present in the gap or breach between the selection and the hierarchization of information established by the media and the audience, leads to certain unavoidable consequences for the media discursive strategies.

The reader categories that have been described do not represent all possible readers, but correspond to a media consumer group that has a higher participation level in the journal's contents than the rest of the audience. Also, as an 'interpretative community' (voluntary, temporal and tactical), according to Jenkins, (2010) they "debate and negotiate opposed interpretations of common texts" (p. 109). Readers can be also distinguished as "activists" because of their tendency to "question" and tactically oppose, occasionally, to certain media decisions.

In the mentioned study (Raimondo, 2009, 2010) the audience response discourse also provided us information about the new habits of cultural consumption in which the relationship journal/reader is set: the need to research, deepen or check the information that they have interest in, the reading experiences related to the consumption contexts that no longer limit to home, and the loss of credibility towards a concrete concept which characterized the relationship with the journal in paper.

We could also noticed that the readers recognize the added value that is for them to be able to know other readers' points of view, express and share their own opinions about it or just let off steam and go through a catharsis. Now, once the journals give the reader a set of spaces to intervene and participate, in order to get their attention or at least part of it, they can no longer completely control their use and their usufruct is often far from what the medium expected. That is to say, certain conflict between the logic proposed by the medium and the participation logic(s) of the audience is evidenced. This partly explains the constant actions (mostly of control) that online journals often carry out in order to re-channel the audience communicative flow that takes place in the comments – through the users ranking, awarding of medals or the link with the Facebook profile.

On their part, the media increasingly attempt to position themselves as communal links, aiming to create experiences that go beyond the news and information consumption. This leads us to retake Verón's idea which claims that in our societies the only thing the media system does is generating groups, day after day. In this sense, there is a particular group that is gaining more and more importance, within the discourse as well as in the audience: the community.

What about taking a look at the contract?

Finally, in order to give a closure to this chapter about the type of relationship online press currently has with its audience, we will talk about the semiotics concept of reading contract. Because, just as journalism is currently examining its basal concepts, we should examine and re-discuss the relevance and aptitude —to comprehend the current social phenomena of understanding and interpreting— of certain concepts that were 'legalized' in a context very different to the one we know today. In the field of media semiotics, one of those terms we could began to discuss, is the reading contract, postulated by Verón at the beginning of the 1980s.

Following Verón (2004), the discursive strategy carried out by a journal contributes to build up its 'personality', therefore, to mould the way in which the medium relates to its audience. It is with this perspective that the renowned Argentinean semiologist links the concept of strategy with the concept of contract, since the latter "puts emphasis on the relationship construction conditions that, with time, link a medium to its consumers.... A medium should manage that link through time, keep it and develop it... The aim of this contract… is to build up and maintain the consumption habit" (Verón, 2004, p. 223).

Now, as we can see from all the previously stated, the reading contract in digital journals is particularly unstable, because it is constantly altered, stressed and redefined by the reader's participation that comes from the journal's interface, through the intervention and participation spaces. Therefore, we consider that even though this concept continues to be useful to unravel, from a semiotics view that deals with the social functioning of discourses, the way in which the media "propose" a link to their audience[6] – audiences that, in turn, contribute to consolidate, because in every contract always underlie certain conjectures about its reception, it is also true that we should make at least, certain considerations about it.

On the one hand, according to what is proposed by Bitonte and Demirdjian (2003), we believe that "the reading contract method starts as part of a discourse socio-semiotics analysis in order to formulate, from the hypothesis made up from it, a possible inquiry in reception". Nevertheless, we consider necessary to point out that the validity of the information provided by the analysis of the contract is significantly more perishable than ten or twenty years ago.

Escudero (1996) states, in one of the initial chapter of her book *Malvinas: el gran relato* [Malvinas: the great story]: "It is evident that, as far as social contract, the media contract is basically stable, and this stability is what allows the circulation and information consumption in the contemporary world without manifest cases of communicative collapse" (p. 48). But allow us to suggest that it is exactly that stability that the author underwrites which becomes a quality, of the media contract, that has become obsolete. We could take a risk and say that this lost is associated with another announced death: the 'faithful' reader. This reader that followed faithfully a medium in which he had put all his "trust" is currently in irremediable danger of extinction because, as suggested at the beginning of this chapter, there is something about the concept of belief [7], which in the past was placed in the mass media, that nowadays is fading.

Notes

[1] This chapter is a reflection based on an investigation carried out within the PhD thesis "The newspaper / reader relationship in online press. Analysis of the reader's intervention and participation spaces in the Argentine newspapers in Clarin and La Nacion (argentinian journals)"

[2] The *reader's intervention spaces* have been defined as those newspaper sections that have been "intervened" or "pierced" in some way by the reader's activity through some kind of action carried out by the reader himself which has left a print on the journal's interface —with exception of the enunciation production—: rankings (of most read, most commented or most voted articles), surveys, article polling, comment abuse report and related readings list. Likewise, the reader's participation spaces are the journal sections where the reader can express discursively by producing enunciations: letters from readers, discussion forums, blogs, comments (in articles, surveys, etc), social network related spaces, online interviews and citizen journalism sites, among others.

[3] In which the user decides which information to consume, at what time of the day and through what technical device.

[4] These are: the integrated faithful reader, the excluded faithful reader, the dissident reader and the judgmental reader (in *La Nación*); the inquiring blogger, the isolated or recluse blogger, the beginner blogger and the usual blog reader (in *Clarín*).

[5] According to Alexa's *Clickstream*, looked up on August 31st 2011, 12.35% of the users accessed from google.com, 12.25% did it from google.com.ar and 12.25% accessed via Facebook. As for lanacion.com, 14.78% accessed from google.com, 10.91% from google.com.ar and 10.97% via Facebook. . (http://www.alexa.com/siteinfo/clarin.com and http://www.alexa.com/siteinfo/lanacion.com.ar)

[6] Verón claims: "there is an enunciator that proposes a recipient to fill in a place" (2004, p. 179).

[7] In order to see the relationship between *contract*, *trust* and *belief* established by Verón (2004, p. 223).

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Chapter 7
Interactivity in education:
social and complex network analysis

Ana María Casnati Guberna
Universidad de la República (Uruguay)
anacasnati@gmail.com

Claudia Ribeiro Santos Lopes
Universidade Estadual do Sudoeste da Bahia (Brazil)
clopesuesb@gmail.com

Dante Galeffi
Universidade Federal da Bahia (Brazil)
dgaleffi@uol.com.br

Hernane Borges de Barros Pereira
Universidade do Estado da Bahia (UNEB) and
Faculdade de Tecnologia SENAI CIMATEC (Brazil)
hbbpereira@gmail.com

Introduction

This chapter shows the current situation in Uruguay and the implementation of ICT policy in education, and therefore presents the results obtained from social network analysis, starting from the purpose of verifying the existence of interaction between Flor de Ceibo and Ceibal Plan. Thus, we intend to contribute to the understanding of communication channels, the flow of information, and the exchange of views on educational activities.

Law 18.640 approved in January 2010, in Uruguay, decreed the creation of the Ceibal Center to support education in childhood and adolescence. The Ceibal Center is a non-governmental legal entity under public law, which depends directly on the Presidency.

The Center manages the Ceibal Plan, performing the role of coordinating and developing programs and projects that support education policies for children and adolescents, facilitating social inclusion and equality of access to knowledge. The Ceibal Project, which started on May 10th, 2007, in Villa Cardal, Florida, consists of a plan of inclusion and access to the Information Society and knowledge, and integrates the Uruguayan Government's Digital Agenda, to be applied by the National Administration of Primary Education.

The Technological Laboratory of Uruguay is the agency responsible for technical implementation and acquisition of related equipment (multimedia computer with a wireless card for wireless Internet access, servers, software, etc.). Each student becomes the owner of his/her own laptop. The operating system Linux is installed on the computers to encourage and promote open access. Internet connection takes place through a wireless network, to allow connectivity within and outside of the school study center at a distance of approximately 300 meters.

The Uruguayan Government offers various services to citizens through the "Electronic Government" system, and the initiative of the Ceibal Plan brings this service closer to the community thus standing out as an important strategy for social inclusion.

The ICT policy in Uruguay has three important characteristics: i) universality of public education, ii) provision of computers to students, iii) access to all the families. With this policy, the ICT-mediated learning is not restricted to the educational institutional environment, but allows the use of this resource in the learning process and promotes the inclusion of ICTs in the community's everyday life.

After the first actions of the Ceibal Project in September of 2007, the University of the Republic begins expanding the project with teachers and students in order to cooperate with the Ceibal Plan (Casnati, 2009).

The university project began in 2008, integrating two hundred and thirty-eight students and twenty-four teachers working with communities across the country. This project continues to this day with two fundamental objectives: i) contribute to the formation of a university student committed to the reality of the country, and ii) support the development of the Ceibal Plan in the various job opportunities, creating spaces for interdisciplinary training and intervention. This proposal aims to complement university education and knowledge building and intends to monitor the process, learn and make use of the experience to create places of reflection to facilitate the understanding of the nation's complex reality.

Both the organization of the Ceibal Plan and the Flor de Ceibo university project are considered complex systems, presenting fundamental dualities in the sense of being composed of parts that are both similar and different; nevertheless, both remain functionally interconnected. In order to study the interrelationships and the underlying phenomena, the temporal sequence of different and varied events must be contemplated. Regarding the dynamics of the system, the existence of conflicts is responsible for the appearance of extraordinary phenomena, however the whole system presents a dynamic equilibrium in an intricate interconnection of multiple influences between the various actors in organizations.

The work in this context necessarily requires recognizing the complexity to be able to realize the Ceibal Plan issues that interact with the project Flor de Ceibo where different plans of reality intertwine. In this sense, interaction between teachers and students addresses mutual learning and the development of new activities with the programs incorporated into the Ceibal Plan (Casnati, 2009). This experience can be analyzed from the focus of Systems Theory.

In the 'General Systems Theory' Bertalanffy (1975) states: in one way or the other we are forced, in all areas of knowledge, to deal with complexity, with 'wholes', or 'systems'. This implies a basic re-orientation in scientific thinking.

ICT policies in Uruguay

The expansion of the Ceibal Plan in high school in October 2010 has led Uruguay to create new opportunities for social and digital inclusion for all residents. The reversal in the development of the country and of future generations may be observed in the first results of the educational and social assessment of the plan. Between 2006 and 2009, the number of computers in homes increased from 19% to 44%, and Internet access tripled. In a national survey conducted with students from public schools in 2009, 87% of respondents said that they taught their parents in particular (73%), siblings (46%), other children (42 %), and teachers (9%) through the computer (XO) in a domestic setting. These data show that a profound change has happened from traditional unidirectional teaching to social constructivist learning.

As a consequence an overshoot in learning to the institutional environment of education, the increasing use of cross-shaped features in the learning process, and the possibility of extensive use of technology by the presence of the feature in homes and communities can be noted.

Law 18.640 institutionalizes the Ceibal Center as a non-governmental legal entity of public law, which responds directly to the President of the Republic of Uruguay. The law specifies that the Ceibal Center is responsible for managing the Educational Connectivity of Basic Information for Online Learning Program (Plan Ceibal/Ceibal Plan). The Ceibal Center should coordinate and develop programs to support education policies for children and adolescents, and contribute to the exercise of the right to education and social inclusion by facilitating equal access to knowledge. The Central Executive Council (CODICEN), the Board of Primary Education (CEP), the Ministry of Education and Culture (MEC), the Agency for the Development of an E-Government and an Information Society and Knowledge (AGESIC), the National Agency for Research and Innovation (ANII), and the National Telecommunications Administration (ANTEL) participate in the project.

The Ceibal Plan is a breakthrough in two senses: first, because it is a universal educational policy of ICT inclusion in primary and secondary education in Public Education; and secondly, because it is a one-to-one program. In each class from 1st to 6th grade of all public schools in the country, every teacher and child should have their own computer. The plan began in 2007 in a country school, Villa Cardal, Florida. From March 2008 it continued in the administrative departments of Flores and Colônia, proceeding in Durazno, Río Negro, Paysandú, Salto, Artigas, and Soriano, ending in Montevideo in 2009. From 2010 to 2011 it expanded to High School. In December of 2009, 341.259 XO and 6000 laptops were handed over to the Secondary Education Board, private schools, and the National Institute for Minors; 95% of children trying to enter public schools had access to connectivity.

Schools with no electricity are implementing projects with solar panels. Also 40 connectivity points have been installed in public places such as parks and other institutions, although still in progress. In June 2009, the availability of connectivity in public schools reached 72.7% of all urban and rural schools with twenty or more students; 81% of the principals consulted expressed that connectivity was good, and 13% believed that there were problems in connectivity. However, organized availability of Internet connection neatly in schools can grant access to all students of the same shift in a scaled manner. In rural schools, 30% did not have connectivity by June 2009, 43% said that connectivity was good or very good; 22% had acceptable connectivity, and for 4% connectivity was poor.

On the other hand, 1200 teachers of High schools and 1009 of Technical Education with 20 weekly hours of work were interviewed about accessibility, and only 2% and 5% of High school and Technical teachers respectively expressed not having computer access at home, i.e., access to computers is almost universal among teachers of public high schools. The applications which teachers said they had greater command of were: Word processor, mail, internet, and presentations; however it is possible to say that 100% of the teachers operate basic programs. In class, practices are frequently related to (personal and professional) information research. Most teachers used a computer for teaching for a period of 1-10 hours per week and only 2% and 4% of high school and technology teachers, respectively, reported not using computers for their teaching.

Considering this educational reality, electronic networks constitute a new form of relationship between teacher and student where the concepts of interaction and interactivity appear with new dimensions that are continuously analyzed.

The phenomenon of interactivity in *Flor de Ceibo* – Ceibal Plan

In order to understand the phenomenon of interactivity the involved parties in the interactive process must be observed and analyzed. For this compression parameters were used for analysis of social networks which are composed of social actors and the relationship between them. The social actors in Ceibal Plan and Flor de Ceibo are the basic elements of the system composed of university students and professors, children, parents and neighbors. Relationships among actors are characterized by several links of social actors in order to share tasks, areas, and knowledge that assist in carrying out activities.

In the interrelationships between Flor de Ceibo/Ceibal Plan, the professor works in the community and in the school with students of Sociology, Engineering, Psychology, Communication Sciences, Nursing, and others. Cooperative activities for children take place in elementary and middle schools (aged between 6 and 16 years old) and their teachers. Figure 1 shows a diagram of relationships of cooperation and collaboration between the projects Flor de Ceibo and Ceibal Plan.

Figure 1
**Diagram of the interrelationships of cooperation and collaboration of the projects
Ceibal Plan and Flor de Ceibo (Uruguay)**
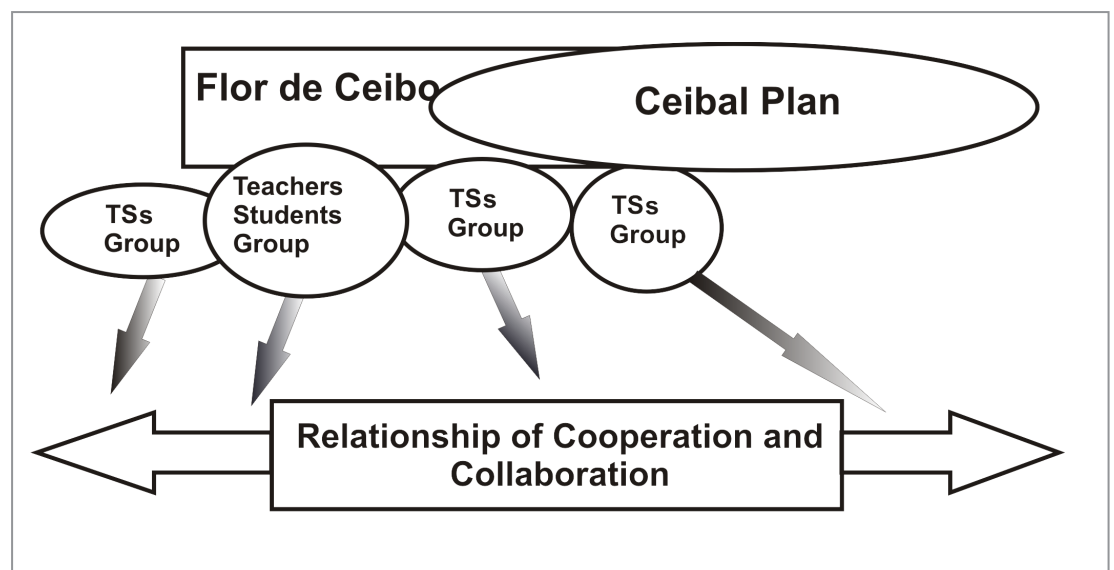
Interactivity in the complex system

A major challenge when conducting studies from the perspective of complexity like this one is the ability to break down and analyze a variety of units considering the elements and relationships that characterize complex environments (number of elements, number of possible relationships, types of elements that make up the system) recognizing the specificities of all the parties mentioned in context. Accordingly, the application of the theory of complex social networks enables the study of the interactivity phenomenon.

According to Machado (1997), interactivity is "the ability to respond to the expression system and dialogue with it". Silva (2010) reports that the term "interactive communication" expresses bidirectionality between issuers and receivers and already existed in the academic area since the 70s, meaning the exchange of ideas and free and creative expressions between the parts of the communication process. Rabaté and Lauraire (1985) observed that among the publications in the field of new telecommunications systems in the technical-functional and organizational areas, the term interactivity appears only in publications dealing with IT and the man-machine dialogue. However, the term has been expanding from the notion of interaction due to the development of operating procedures, functions and requirements of the services that are increasingly complex and sophisticated.

Likewise the design of an intermediary device of translation that ensures the dialogue and corresponds to the notion of interface comes to the fore. Silva (2010) distinguishes a technological interactivity in which the communication and the messaging exchange prevail.

From the semantic point of view the word interactivity comprises three lexical components: inter-active-activity. In the case of the term interactivity emphasizes the following meanings: 'action for the result of interactivity' by being active, attitude/action of what it is, and that which is, intersection of the interaction class. The lexeme inter (between) may have several semantic values: spacing, sharing, mutual respect, and active can be taken as the cultural importance that brings moral and emotional connotations of the concept rather than passive notion (Simões, 2009).

For purposes of this study, interactivity is considered from the concept presented by Silva (2010), i.e., the exchange of ideas and free events between the various social actors of the networks studied, made from the existence (or not) of communications between them, these events defined as a complex system.

Complex systems have certain characteristics that contribute to its definition. They exhibit metastability and metabalancing. The metastability is the constant preference for stability; moreover, the form of interaction of the elements constituting the complex system determines the metabalancing.

Metabalancing is the organized behavior of complex systems. A complex system covers a number of different substructures subject to variation, as is the case of Flor de Ceibo. However, as the modification is not absolute and complete, these sub-structures must have a stability of shape that does not change all at once. No matter how the system components are made, once they perform the same thing, so that the same emergent property may arise in completely different systems. All elements of the complex system act to continually seek the balance of the whole system.

In order to address the fundamentals of interactivity from the perspective of complexity, Silva (2010) highlights three important binomials to understand the context of social networks: participation-intervention, bidirectionality-hybridization, and interchangeability-potentiality Binomials that dialogue and are independent between themselves.

In the participation-intervention of the information and communication technologies enhance communication and take part in the communication process. The bidirectionality and hybridization are seen as possibilities for reversibility and active intervention on the experiences of producer/consumer by adding the sense of fusion. For interchangeability/potentiality, the ICT has helped to organize, produce and consume information with the freedom of navigation provided by the technological capacity of the technology tool.

Interactivity in the complex contexts of social networks mediated by computers value the possibilities of free debates, cooperation, collaboration and interplay of actors (Primo, 2008).

Social and complex networks

The metaphor of the network was first applied in a scientific approach by the mathematician Leonard Euler (Albert and Barabasi; 2002, Buchanan, 2002; Watts and Strogatz, 1998).

In 1736 Euler, proved it was impossible to cross the seven bridges of Königsberg once each. He connected the four terrestrial parts considered, with the seven bridges called edges, and created the Graph Theory. The important idea which appears in the statement of Euler, as explained by Barabasi (2002), is that the graphs or networks have properties in their structure, or multiply that limit the ability to do things with them. A graph is a network of nodes and edges that connect these nodes.

The network representation can be applied to various contexts, including social networks like Flor de Ceibo. The network approach provides tools for the study of organized social systems mediated by ICT. Studying social networks is also analyzing the connections and the behavior of the networks mediated technologically. In these networks the actors are represented by vertices and act through interaction and creation of social ties and are the main focus of the study. The social network analysis enables a meshing of different situations and environments, superimposed on the action of the actors (e.g. agents or events) and resulting from the contributions of each. Thus, it is possible to perform studies considering the actor related to the group considering the network as a model of certain common characteristics to all social networks. Therefore, it is possible to model the relationship mathematically. Despite the increasing complexity of the issues, theories, concepts and models can help represent real and practical cases of various types of networks of relationships. The relationship of teaching and learning are aligned with common interests, but to exist, it is necessary to establish communication paths or connections between the network actors.

Therefore, it is possible to model the relationship mathematically. Despite the increasing complexity of the issues, theories, concepts and models can help represent real and practical cases of various types of networks of relationships. The relationship of teaching and learning is aligned with common interests, but in order to exist, it is necessary to establish communication paths or connections between the network actors.

The relationships established in Flor de Ceibo are technologically mediated inasmuch as they facilitate the topological study and the analysis shows that people exchange information, emotional support and companionship (Recuero, 2009). Flor de Ceibo is connected by networks of teachers and students in the Moodle Platform at Universidad de La República.

It is a structure of interpersonal relationships, where each network node represents an individual that has relations with others within the network (edges). In the case of the social relations of Flor de Ceibo, each group is formed by a teacher and students. The teacher relates to students and other teachers in the project. The students of each group relate to each other within the group. In this sense, Flor de Ceibo network priori may be defined as a graph G which consists of a finite set V, formed of S nodes or vertices with a set X of r pairs of nodes. Each pair of nodes is a line or edge of the graph. In other words, the graph G = [v, x] is a set of nodes and edges. The nodes represent individuals and edges mean the links between them.

Analysis method

The analysis method chosen in order to collect data was the social network theory. In order to calculate the index and visualization of networks, the Pajek software – version 2.0 was used, and for the tabulation of the data the text editor WindEdit and MS Excel spreadsheet have been used to assist.

The behavior of each actor regarding interactivity in the network was assessed using the metrics of centrality (Wasserman & Faust, 2007) and the indices of degree centrality, closeness centrality and betweenness centrality were analyzed. From these indices we sought to verify the interaction between teachers, teacher/student and student/student.

The **Degree Centrality** refers to the number of ties that an actor has with other actors in the network, and thus indicates the central location of the vertex. Thus, the most central vertex in the network is one that has a higher degree, ie., has a larger number of adjacent links with others participating in the same network.

The **Closeness Centrality**, however, is based on the distance between vertices and focuses on how close an actor is in relation to other actors in the network. Thus, Centrality Proximity is inversely related to the distance between the vertices. Thus, the shorter the distance from an apex to the rest of the network, the greater its closeness centrality.

With the **Betweenness Centrality** it is possible to evaluate the interactions between two non-adjacent nodes from the vertices that are located in the path between them. That is, if a vertex has a high centrality of mediation it must be in the path of many other nodes.

The networks studied in this paper were generated from the virtual learning platforms Fing.Edu network (teachers´ network) and Moodle EVA (networks 1 and 2 teachers/students) at the Universidad de La República. Data were collected between the months of February and June 2011.

Characterization of networks

The platform Fing.Edu presents a site that also integrates other teaching projects. Upon entering this site, a visitor is met with various possibilities for communication. For purposes of analysis, this study used data available at the option of 'Press' that involve teachers of the project. This network forms a directed graph consisting of 36 vertices and 159 edges (network for teachers).

The Universidad de La República, through the Academic Technical Support Department, provides for the educational community a set of tools and virtual learning environments. Each group of Flor de Ceibo has a specific space for communication, collective creation, user management, collaborative learning and assessment tools. These activities are developed in Moodle EVA environment (Universidad de La República) that is available with GPL/GNU (General Public License).

Among the thirty groups (teachers/students) that comprise the Project Flor de Ceibo, two were used for the purpose of this study, the choice of those made at random. The network 1 is composed of 19 vertices and 42 edges, and Network 2 composed of 21 vertices and 105 edges. Figures 2, 3 and 4 show, respectively, the teachers network platform Fing.Edu and networks 1 and 2 Teachers/Students of the Moodle Platform EVA.

Figure 2
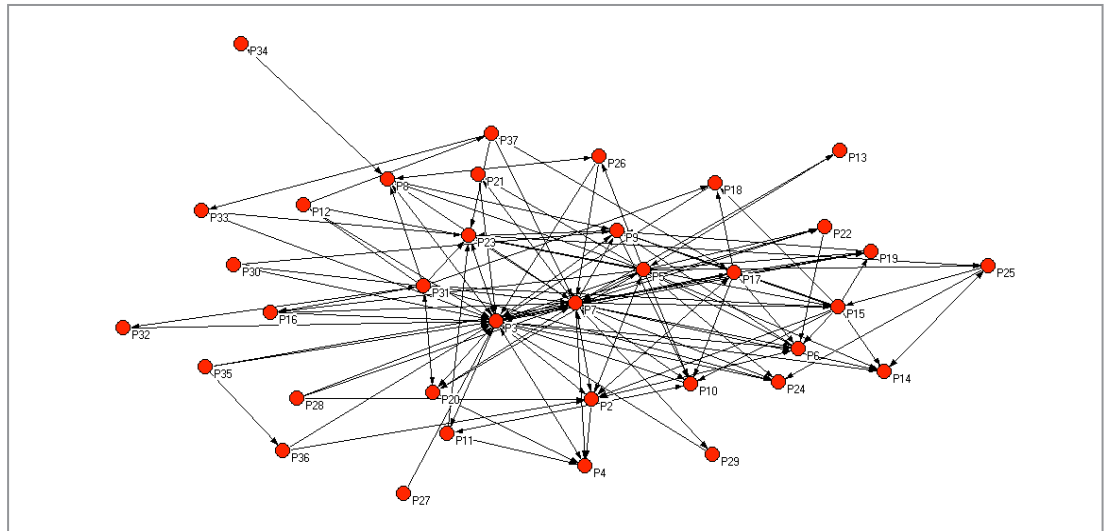**Teachers Network – Platform Fing.Edu – Source: authors**

Figure 3
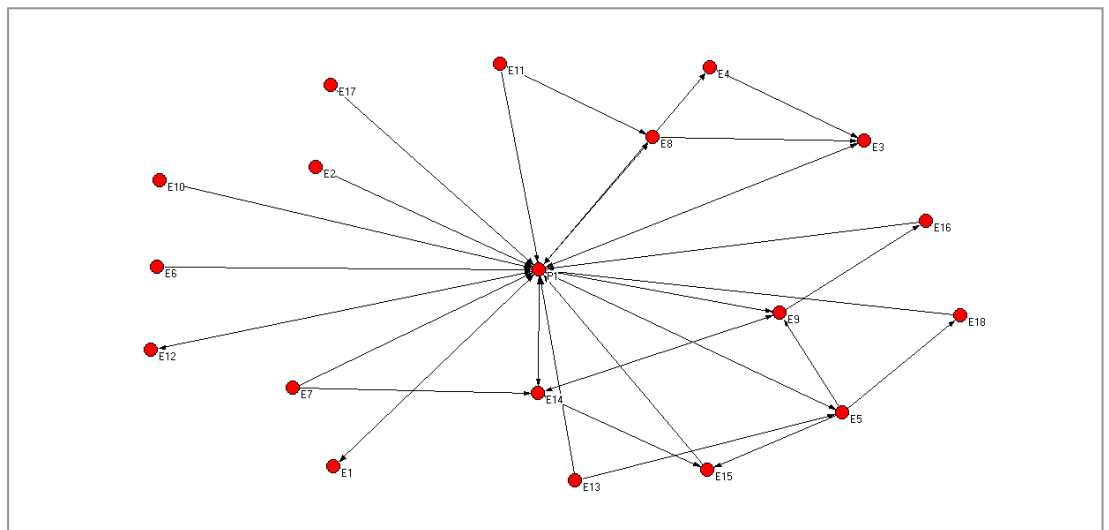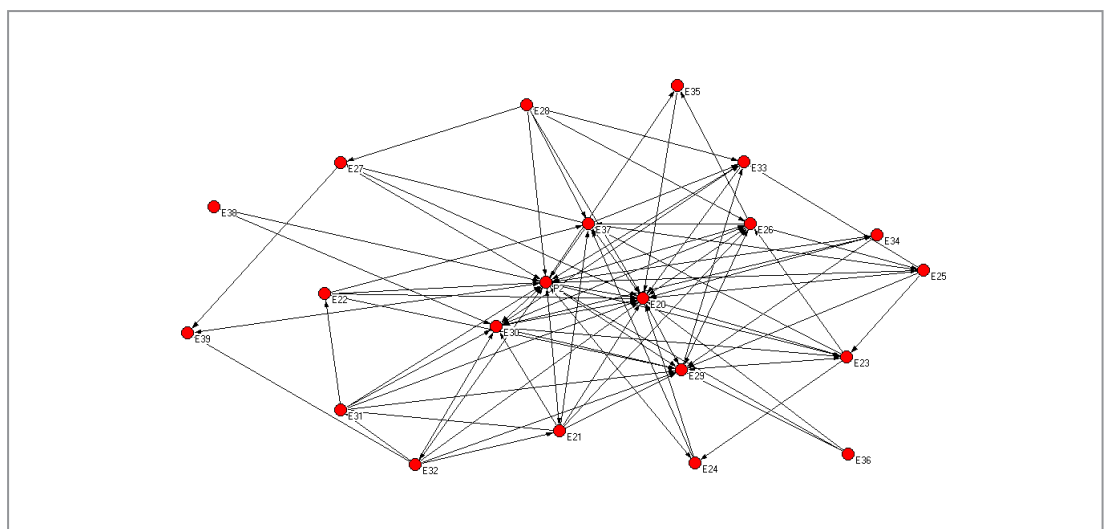**Network 1 of Teacher and Students – Moodle EVA Platform – Source: authors**

Figure 4
Network 2 of Teacher/Students – Moodle EVA Platform – Source: authors

Analysis of results

All analyzed networks (Figures 2, 3 and 4) have shown to be completely connected, with emphasis on some prominent vertices. The results obtained are discussed from sections 7.1 to 7.3.

Degree Centrality analysis

In the teachers network (Figure 2) the vertex P3 and P7 stand out with more local centrality, while the vertex P27 presented the lowest local centrality, according to the Table 1.

These results suggest that the vertices P3 and P7 have greater interaction with their peers. However, it is also possible to observe that all the actors interact with each other, presenting itself as a fully connected network.

Table 1
Vertices Degree (Degree Centrality) Teachers Network Platform Fing.Edu

Vertex	Degree	Vertex	Degree	Vertex	Degree
P3	40	P14	8	P26	5
P4	8	P15	13	P27	1
P5	24	P16	5	P28	3
P6	11	P17	13	P29	3
P7	38	P18	4	P30	5
P8	11	P19	7	P31	13
P9	12	P20	7	P32	3
P10	9	P21	3	P33	4
P11	5	P22	5	P34	2
P12	5	P23	11	P35	3
P2	14	P24	5	P36	3
P13	4	P25	6	P37	5

In Network 1 – Teachers/Students Moodle EVA (Figure 3), the vertex P1 has a higher degree centrality, which is somehow expected, since it is the teacher who is responsible for promoting interaction within the group. However, it is also possible to observe that there is an interaction between students within the network, and accordingly we highlight the vertices E14, E5 and E9. The degrees of the vertices of the network Moodle EVA, are presented in Table 2.

Table 2
Vertices Degree (Degree Centrality) – Network 1 Teachers/Students Moodle EVA

Vertex	Degree	Vertex	Degree	Vertex	Degree
P1	27	E7	2	E14	7
E1	2	E8	5	E15	4
E2	1	E9	6	E16	2
E3	5	E10	2	E17	1
E4	4	E11	3	E18	2
E5	6	E12	2		
E6	1	E13	2		

Network 2 Moodle EVA (Figure 4), presents a more intense interaction between students when compared to network 2, especially vertex E20. As observed in the Network 1 Moodle EVA, in this network, the vertex that represents the teachers´ role (P2) stands with the highest degree centrality. The degree of all the vertices of the network is presented in Table 3.

Table 3
Vertices Degree (Degree Centrality) – Network 2 Teachers/Students Moodle EVA

Vertex	Degree	Vertex	Degree	Vertex	Degree
P2	34	E26	16	E33	7
E20	26	E27	6	E34	6
E21	9	E28	6	E35	4
E22	5	E29	19	E36	3
E23	10	E30	13	E37	12
E24	5	E31	7	E38	2
E25	8	E32	8	E39	4

Closeness Centrality

In the network of teachers (platform Fing.Edu) the vertices that have a greater closeness centrality are P3 and P7. These results suggest that these vertices interact more quickly with the other actors in the network. The results regarding the closeness centrality of proximity of the network of teachers at Fing. Edu are shown in Table 4.

Table 4
Closeness Centrality – Network of teacher at Fing.Edu

Vertex	Index	Vertex	Index	Vertex	Index
P3	0,854	P14	0,530	P26	0,530
P4	0,522	P15	0,574	P27	0,467
P5	0,686	P16	0,522	P28	0,507
P6	0,556	P17	0,574	P29	0,500
P7	0,795	P18	0,515	P30	0,507
P8	0,556	P19	0,538	P31	0,565
P9	0,583	P20	0,530	P32	0,486
P10	0,547	P21	0,515	P33	0,500
P11	0,515	P22	0,522	P34	0,361
P12	0,522	P23	0,565	P35	0,507
P2	0,565	P24	0,530	P36	0,486
P13	0,467	P25	0,473	P37	0,507

In Network 1 –Moodle EVA Platform only the vertex P1 (1,000) stands out regarding the closeness centrality, all the other actors had ratios of between 0.514 and 0.581. These results suggest that only the teacher interacts quickly with the other actors (students) that comprise the network. The results for the closeness centrality of a network are presented in Table 5.

In Network 2 –Moodle EVA Platform – three points stand out from other actors: P1 (1,000), E20 (0,909) and E29 (0,741). These results suggest that besides the teacher who must interact quickly with all the vertices, two students from the twenty that are part of the network interact more quickly with others, especially in terms of the closeness centrality index (global centrality). The results presented on the proximity of the central network 2 are shown in Table 6.

Table 5
Closeness Centrality – Network 1 Moodle EVA Platform

Vertex	Index	Vertex	Index	Vertex	Index
P1	1,000	E7	0,529	E14	0,563
E1	0,514	E8	0,545	E15	0,545
E2	0,514	E9	0,563	E16	0,529
E3	0,545	E10	0,514	E17	0,514
E4	0,529	E11	0,529	E18	0,529
E5	0,581	E12	0,514		
E6	0,514	E13	0,529		

Table 6
Closeness Centrality – Network 2 Moodle EVA Platform

Vertex	Index	Vertex	Index	Vertex	Index
P2	1,000	E26	0,667	E33	0,606
E20	0,909	E27	0,571	E34	0,556
E21	0,625	E28	0,588	E35	0,541
E22	0,571	E29	0,741	E36	0,541
E23	0,625	E30	0,690	E37	0,690
E24	0,556	E31	0,606	E38	0,526
E25	0,606	E32	0,606	E39	0,541

Betweenness Centrality analysis

The vertex P3 (0.388) and P7 (0.297) Network Fing.Edu Regents of the platform once again, have higher levels than the other network. Importantly, these vertices also have higher rates of degree centrality and proximity in relation to other actors in this network. The results on the central intermediary are shown in Table 7.

Table 7
Betweenness Centrality – Teachers network at Fing.Edu Platform

Vertex	Index	Vertex	Index	Vertex	Index
P3	0,388	P14	0,031	P26	0,000
P4	0,003	P15	0,022	P27	0,000
P5	0,068	P16	0,000	P28	0,000
P6	0,010	P17	0,035	P29	0,000
P7	0,297	P18	0,001	P30	0,006
P8	0,078	P19	0,001	P31	0,050
P9	0,010	P20	0,027	P32	0,000
P10	0,026	P21	0,000	P33	0,001
P11	0,003	P22	0,000	P34	0,000
P12	0,029	P23	0,024	P35	0,000
P2	0,032	P24	0,005	P36	0,000
P13	0,000	P25	0,010	P37	0,010

In Network 1 – Moodle EVA Platform, the vertex with the highest intermediation centrality index was P1 (0.638), and once again the actor who stands out in the network in relation to the others. The results obtained with the network 1 suggest that despite being a fully connected network, the interactive network is centered on the role of the teacher. Table 8 shows the rates of central mediation of the vertices of a network 1 – Moodle EVA Platform.

Table 8
Betweenness Centrality – Network 1 Moodle EVA Platform

Vertex	Index	Vertex	Index	Vertex	Index
P1	0,638	E7	0,000	E14	0,034
E1	0,000	E8	0,057	E15	0,001
E2	0,000	E9	0,057	E16	0,000
E3	0,002	E10	0,000	E17	0,000
E4	0,000	E11	0,000	E18	0,000
E5	0,083	E12	0,000		
E6	0,000	E13	0,000		

In Network 2 – Moodle EVA Platform, the vertex with greater centrality of mediation is P2 (0.474) which plays the role of the teacher in the network. Among the students who belong to the network, the vertex E20 (0.097) is that which has the highest rate. These results suggest that the intermediary network is centered at the vertex P2. Table 9 shows the indices of centrality of each actor on Network.

Table 9
Betweenness Centrality – Network 2 Moodle EVA Platform

Vertex	Index	Vertex	Index	Vertex	Index
P2	0,474	E26	0,024	E33	0,000
E20	0,097	E27	0,003	E34	0,001
E21	0,049	E28	0,000	E35	0,000
E22	0,001	E29	0,028	E36	0,000
E23	0,007	E30	0,024	E37	0,017
E24	0,001	E31	0,050	E38	0,000
E25	0,005	E32	0,046	E39	0,000

Conclusions

The results presented in this chapter suggested that the application of the theory of social networks can contribute to the analysis of interactivity in educational networks, in order to identify the most important/influential network actors as well as serve as a basis for planning actions that may lead to more intense interactivity.

In the Teachers Network, Fing.Edu platform, there is an intense interaction between the various actors in the network as shown by the vertices P3 and P7 in all metrics analyzed (degree ,closeness, and between-ness centrality).

Speaking of Networks 1 and 2 – EVA Moodle Platform, composed of two distinct groups of teachers and students, the vertices that had higher rates for the three metrics examined were P1 (Network 1) and P2 (Network 2), i.e. those which play the role of teacher. These results suggest that although the network is fully connected and there is interaction between the actors, this interaction is centered on the figure of the teacher, and a low interaction between students. Therefore, we can conclude that there is need to plan and carry out actions that will contribute to enhancing interactivity on the network, especially regarding communication between students. Thus there is a need to devise strategies that will contribute to a better interactivity between the actors who presented lower levels of degree, closeness and betweenness centrality. However, the fact that the teacher provides greater interactivity is understandable, since he/she must play the role of articulating the network.

The observation of the human elements, as well as aspects related to technological elements was the starting point for understanding the dynamics of a phenomenon in which the sociological and technical considerations are closely linked.

The combinations of technical and social elements end up generating another entity, something more than an element that supports interactivity and becomes a new object of study used to explain both the technological condition of social change and social conditions of technological change. By linking the social environment with technological artifacts, a new 'framework of meaning' is born, accepted by various groups of Flor de Ceibo involved in the artifact structure, which guide the new trajectories.

Because the networks are innovative ways to build institutionality and knowledge in university education, it brings together features that can contribute and demonstrate new ways of learning and teaching in new educational contexts.

The present study aimed to verify the existence of interactive networks of teachers and teachers/students of the Universidad de La República, Uruguay, in order to identify the actors (vertices) that had greater importance/influence on networks. Thus, the study is expected to contribute to the future work of defining and planning actions that aim to enhance collaboration and cooperation in networks through the integration of various educational activities. This analysis can be supplemented in the future with a more accurate study of the content of discourse and messages between the actors of the networks. No doubt it will be able to expand the vision and understanding of the interactions of the protagonists of the object studied.

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Chapter 8

Media transformations for journalistic practices in regional print media due to new technologies and the implications that shape the agendas of journalists and media companies

Henry Rubiano Daza
Universidad Cooperativa de Colombia
henry.rubiano@ucc.edu.com – henryrubianodaza@yahoo.com

"In the last quarter of the twentieth century, a technological revolution centered on information, transformed our way of thinking, producing, consuming, doing business, managing, communicating, living, dying, and of making war and making love"

Castells. 2001.

Context of the problem

From Gutenberg to the present time, the advances in technology for printing and communications and in general, sharing knowledge, is evident. The advent of the Internet has opened an unlimited number of doors to the world, being to the Digital Age what the printing press was to the Renaissance. Currently, blogs, Facebook and Twitter, as well as new technological tools, turn every computer connected to the Internet into a printing press: "The printing press of the 21st century", as Piscitelli (2007) pointed out, refers to the use of new digital technologies. The Internet intensifies non-territorial information flows: it renders letters, magazines and eventually television obsolete. It recovers eras of textual information and generates a truly interactive multimedia scheme in real time (Piscitelli, 2007, p. 126).

The evolution of man has always been linked to technology, since it facilitates a better world, enables the enjoyment of life, facilitates access to new knowledge and brings the imaginary and the futuristic closer to reality. Technology has created various ways to communicate, interact, live and survive, and has meant that the general population can be aware of the rapid progress of human development. Humanity is more immersed in a technological world, as Martin-Barbero (2002) states, in which the individual, in order to be the human "self", is an agent under construction facing the complex world of the Internet.

But this environment that is focused on technological advances has brought consequences that in many social and productive spaces have been significant in the life of man, and have caused radical changes. Silverstone (2004), in his essay *Why study the media?* expresses the view that information and communication technologies (ICTs) "greatly change the visible and invisible in the world in which we live. Writing, printing, telegraphy, radio, telephone, television and the Internet: each one of these proposed new ways of managing information and new ways of communicating it" (p. 43).

With the current advances made in telecommunications, today there are new dialogues and spaces to communicate, inform, produce and access knowledge, which represent motives to embark on social struggles. In other words, alluding to Castells (2002), we are in a system of constant evolution of communication processes, which increasingly cover a universal digital language; the production and distribution of words, sounds and images of our culture is globally integrating and arranging the tastes and temperaments of individuals. Interactive computer networks grow exponentially, creating new forms and channels of communication while shaping life (Castells, 2002, p. 2).

Nowadays information technologies, especially digital, influence professional practices in journalism, through their ongoing relationship with the advanced technological world. The practice of journalism, the way it behaves, operates and produces news information, must focus on the new devices, otherwise its existence would be in danger as well, as stated by Scolari (2008) in his text *Hypermediations*. "Thus we find figures that tend to disappear (like the tele-typist or editor), new roles (such as the content manager or media manager) and professions that are being profoundly modified (such as the journalist)" (Scolari, 2008, p. 207).

For Scolari, journalists are increasingly required to master various technological tools, media and languages, while assuming functions previously performed by other professionals. Today there is a reporter with new multifunctional practices on three levels: technological versatility (using software and hardware that allow the journalist to produce and manage content in different formats); media versatility (the information professional that designs and produces content in different formats: text, audio, graphics, video and interactive); and topical versatility (the information professional is responsible for generating information for different sectors of the media such as sports, politics, culture, etc.).

In the same manner as Scolari, Thompson (1998), in his text *The media and modernity*, notes that the use of ICTs generally assumes a new encoding process. This means that new rules and procedures for the encoding and decoding of information or symbolic content are required. "Individuals who use the media should be able to, at least in some measure, handle the most relevant rules and procedures" (Thompson, 1998, p. 42-43).

Lévy (2007) understands these new essential skills for journalists, required by media companies and general cyber-culture, as appointed by the culture of societies in which digital technologies are decisively shaping the dominant forms of information, communication and knowledge in areas such as research, production, organization and administration. This entails not only the requirement to be competent in adapting to new information products that are more agile and dynamic and full of hyperlinks and hypertext, a far cry from the lengthy articles and vast genres from the reporting of years ago, but also for journalists to change their practices[1].

According to the thesis forwarded by Wenger (2001), this change in journalistic practice, as in other disciplines or professions, has the following characteristics: it provides solutions to conflicts; sustains collective memory; helps unite the community; generates perspectives and concrete terms and creates harmony in the workplace.

Put another way, in the words of Wenger, the concept of practice means to do something, but not simply something in itself and for itself, but to do something in a historical and social context that gives structure and meaning to actions. In this sense, practice is always social practice (Wenger, 2001, p. 71).

Based on Wenger's ideas, it is now clear that the response of journalism to the dizzying world of information and communication must be more instantaneous than usual. The rhythms in which information products are developed, throughout different media, suggest that journalists are implementing new practices in their reporting processes to catch up, be more timely, and compete with new technological and social trends.

Therefore, the journalistic practices of today are not only recognized and accepted by journalists in their daily practice, but obey a clear demand from corporate and media companies for the acquisition and use of ICTs to improve their reporting processes. This meets the requirements of the information and communications market, which is regulated by the indicators of audience and readership. These new practices have changed traditional formats (print, radio, TV, etc.) and have created new news stories and scenarios that are consumed by different sectors of the public as well as by academic spaces.

However, ICTs have not only transformed journalistic practices and products, but have also changed how information is managed in the process of creating, editing and disseminating news through printed or digital format, endangering the good practices in journalism. The journalist has the role of interpreter of reality, which requires a high degree of responsibility in the practice of the profession. It is a responsibility linked to the fulfillment of regulations that form what is known as codes of ethics[2], understood as rules that define practices and behaviors that should be avoided – for being contrary to the ethics of transmitting information – by journalists (Armentia and Caminos, 2009, p. 21).

Thus the priority becomes the analysis of changes that have been occurring in the connotation of journalism and its practices in the era of globalization, precisely because the inclusion of ICTs have changed the ways that newsrooms and news production approach, interpret and reproduce reality. These changes are derived from the 'facilities' of digital media that allow for greater immediacy and interactivity, which, as journalist Washington Uranga[3] (2008) highlighted in his paper 'Digital Journalism: New Questions for Old Dilemmas', in the Forum on Digital Journalism in Rosario, Argentina, in 2008, has changed the relationship between media, journalists, audiences and the government.

In the same sense, it is noteworthy that with ICTs, that not only are journalistic practices changing but there are also changes among the users of media and information. Their demand for information has other connotations related to the immediacy and quality of journalism, to the point that it is assumed that many may go from being consumers to producers of news in the Web 2.0 environment in order to generate content that is more suitable to their realities. These changes are another great challenge and an important category of analysis in the newsroom when designing information agendas, the presentation of information and journalistic practices that generate pleasant and attractive offerings for agile consumers.

Regional media

Today, regional media organizations in Colombia are concerned about participating and winning space in the digital communications environment, dabbling in the creation of news portals and new multimedia journalism. They are full of information products that are focused on scoops, immediacy and dynamism, but with little rigor in the process of interpreting reality. This puts the social function of journalism at risk and especially its regional focus. It also affects journalism's ability to be the bridge in looking for alternative solutions between public and private sectors and between communities and the State.

These media spaces become the voice of communities and represent the social environment, seeking common or general welfare through the intervention of journalistic communication. Although it is true that regional journalism has the same objectives as national journalism, the difference lies in the presentation and type of news to be covered and broadcast. The main feature of regional journalism is the inclusion of coverage that is limited to a specific location. However, this does not mean that it ignores news from the external environment, since these allow for the development of a broader view of the local situation by the reader.

Despite the distance, the digital divide and reduced financial capacity, regional media outlets like the *Diario del Huila* and *La Nación*, which have the highest circulation in the department of Huila (south of Colombia) and reach other regions such as Caquetá and Putumayo, make inroads in this field to meet the demands of users, both print and digital. They also work to make their communication products visible. However, to do this, media companies require new generations of journalists that have an academic background and practically innate competencies in digital culture.

Between 1994 and 2010, these two regional media outlets have not only made changes in their design and format, seeking to improve information products and making the physical media more attractive, but their digital portals have been prioritized. This has resulted in the need to change the position of journalists and provide training through workshops and courses to their staff in the management and use of ICTs. As stated by the editor of the *La Nación* newspaper [4], Ricardo Areiza, in the last five years the employment of a journalist is subject their ICT skills and competence or familiarity with digital journalism.

Implications for public opinion

Even though they are produced in distinct circumstances, it is not widely understood that a really good journalistic piece has requirements similar to that of any other intellectual work, above all if it is written quickly and for immediate publication (López de la Roche, 2003, p. 128). For this reason it is important to be careful with the changes represented by digital communication as they modify the conformation of agendas, a concept derived from 'Agenda Setting'. This is because media outlets are not uni-directional but horizontal, active, participative and with the same rhythm that is demanded by users of the information. It is supposed that there shouldn't be an imposition of themes and topics by the media, but there should be feedback with the interconnected communities to determine which are the true issues that interest them. Technological progress allows for individuals to choose how and why they use determined media, and to decide if they wish to form an active part of the communicative process, depending on their context, individual background, attitudes and actions. In accordance with the theory of 'Agenda Setting', within the informative process there is a close relationship between the agenda of the media, the general public and politics. At the same time this is influenced individually or collectively by different factors that intervene in large areas of communicative development (Rodríguez. 2004, p.18).

Even in the area of interpretation and reproduction of the local reality, it is viable to ask how clearly the concept of 'Agenda Setting' is applied within the regional information media. It is also important to question if due to ICTs and changes in journalistic practices, the idea of own agendas is still valid, above all in the field of regional journalism.

The transformations in the production of news items has achieved that there is more interest in constructing news through sources found on the web or official or corporate sources in the publication of information in local or regional media. This takes away value and space in the construction of local realities and the conformation of the media and public's through the interpretation of contexts and events by the user of the media.

López (2006) highlights the situation facing newspapers that face more and more problems to increase their numbers of subscribers and readers, despite the fact that they have been at the vanguard of changes created by new communication tools and the multimedia demands of users. In accordance with the findings of the researchers, it is necessary to recover "pure and hard" journalism, the capacity for innovation, improved communication with readers that takes into account changes in presentation, the conformation of leadership, the value of being close to local events and journalistic quality. However, in their conclusion the author admits that it will only be successful if media outlets are capable of meeting the new demands of citizens. In this point there has been little development, because they have been incapable of defining the new role of local newspapers and characteristics of the new product. It is therefore necessary to examine the idea of the configuration of the media's agenda for participatory citizenship and recognize the importance of regional journalism.

In the case of two of the oldest newspapers in Huila that have previously been mentioned, it is clear that regional information has greater weight in publications, but it is not known if they are managing their own agenda for the development of information. This allows, as is the case with local newspapers in Spain, to develop journalism that is more configured to the needs of users, without the problems of the focus on immediacy resulting in the loss of journalistic quality and losing sight of the objectives of journalism.

Added to this debate are questions such as:

What are the journalistic practices that use ICTs in the management of the sourcing of information for regional media?

What are the implications of current journalistic practices that use ICTs in the construction of news in the regional media?

How do the regional print media outlets of Huila build their own agendas and what impact do they have on public opinion?

Common point: different views

There are valuable investigations that have been carried out by researchers, journalism organizations and other groups that are related to the dynamics of information and communication. Many of these have been fundamental in reflecting on the future of the media and the focus of professionals, especially in the regions. This has all been done with the intention of responding to the dynamics and demands of the virtual world.

In this area of journalistic practices, in Aguascalientes, Mexico, a study was carried out on the structures of interpretation to get close to the event by Salvador de León Vázquez (2004). This student aimed to understand how news is developed in print media from this province. To approach the issue, the author took into account sociological theory on the production of news, integrating a methodological design using the techniques of participatory observation and in-depth interviews.

With the necessary contextualization of the reality of journalism and the daily life of Aguascalientes, the researcher developed some questions that point to the construction of the research study's objective: What happens with the processes of constructing meaning of the immediate environment, specifically with journalism? In what situation and by what practices do local journalists generate meaning from their reality and convert it into news? What happens with local journalism? How is local news produced in Aguascalientes?

To answer these questions, the author proposed an empirical measurement of the journalistic practices of Aguascalientes, which included three points of view: the communication process, the geo-political situation of the city and the news media.

In the process of conducting a sociological analysis of the production of news the author found that: the news is a result of a complex social process; a media organization is a bureaucratic organization; the production of news is carried out through routines; news values are considered as a journalistic para-ideology that allow for the recognition of events that can be transformed into news; the level of autonomy of individual subjects in terms of the directives imposed by the media organizations; and the levels of analysis included in the production of messages.

The result of this research was the characterization of the practices that journalists from the daily newspapers of Aguascalientes use to prepare informative reports on real events through which they contribute to the construction of local journalism. These practices are production routines that synthesize structures of socialization and interpret the local environment.

Further south, in Chile certain studies on journalism have generally focused on characterizing the ethical-normative dimensions of the profession, as well as by studying the media's discourse and most recently, increasing knowledge about the market conditions for media organizations. However, during the 13th Latin American Gathering of Faculties of Social Communication (Felafacs) that was held in La Havana, Cuba, in 2009, the authors Claudio Salinas Muñoz y Hans Stange Marcus presented the paper *'From newsmaking to rationality: Proposals for the study of the professional field of journalism'*. This reviewed the formation of the particular sociological field of study and offered a methodological proposal for its investigation.

Examining the range of practices and seeking to bring together topics such as the changes that the ICTs have brought to journalism and their impact on journalistic agendas, López (2006) published a study titled *'Local newspapers: many changes and little journalism'*, that covered research on Spanish journalism in the last ten years, focusing on local newspapers. The study indicates that apart from changes attempted in the last few years, local publications haven't sufficiently realized the potential of new journalistic practices, to the point that some believe that they should return to a 'pure and hard journalism' that is close to local events and offers useful information to readers. They also believe that the print edition should be combined with digital media online and include free media directed at well-defined segments of the market.

In this sense, López García (2006) throws some light on the modifications that the 'Agenda Setting' theory can experience. These can eventually be overcome by the effect of the development of digital communication systems. The hypothesis proposed by the professor is that the multiplication and diversification of communication media, which has been provoked by digital technology, need to provide a similar depth in the covering of topics of interest as provided by traditional forms of media. This could lead to certain lines of fracture in the paradigm of 'Agenda Setting'.

The contextualization realized by the researcher points to the development of digital technologies in the last ten years that have provoked an exponential multiplication of the number of communication media outlets that the citizen has access to. Regarding a media eco-system that was previously characterized by a reduced number of media outlets that were strongly hierarchical and directed at a mass audience that was fundamentally passive, the result is that digital communication has increased the number of media outlets available for the public, both in the quantitative and qualitative areas.

Covering the wide digital world, Viana (2010) in his doctoral thesis demonstrates that the use of the Internet supports communication between citizens and also serves to generate a lot of "background noise". However, given that only 25% of the global population has access to the worldwide network of computers, there have been a diverse range of social empowerment initiatives that have been consolidated through the use of new media to propose different horizons for citizen-based journalism.

The Internet is constructed through collective collaboration. This coexistence also contributes to the discovery or formulation of distinct types of written, oral or audiovisual language. This personal expression includes other environments that are formed as a result of the preferences shared by users, immediately and with a local or global reach.

The voluntary and spontaneous use of online social networks, for example, also results in historical, ethnographic, anthropological and sociological processes. These represent the foundations for the development of this doctoral thesis.

As well as the theoretical bases that demonstrate the organization of audiences as mediators and 'pro-sumers', the investigation includes a market research study that demonstrates the uses, habits and trends of social networks in Spain, Brazil and Mexico. The data analyzed indicates the potential for the establishment of citizen-based agencies of communication among users that make coexistence possible in networks at a global level. These include the consideration of distinct identities and socio-cultural characteristics and provide opportunities to access and use new media.

This study of Viana (2010) detects the use of networks as media that open new forms of social coexistence and the diffusion of information in distinct formats. These have now created the need to survey the forms of citizenship that best represent communities and cultural diversity.

Other particular studies on this issue are referenced in publications such as the one presented in a talk at the 10th Ibero American Congress of Communication (IBERCOM), held in Guadalajara, Mexico in November 2007 that was titled *'New technologies: Risks in journalistic practices and its impact on the news media'*. In this article its author Héctor Claudio Farina (2007, November) highlighted that journalists now don't need to be in the same place where news events happen. Newsgathering now depends more and more on the materials that they receive through media technologies. Journalists face increased risks through the use of new technology such as the loss of direct contact with sources, the poor processing of information in the writing of the article and the urgency required for its publication compared to the lack of time to check the veracity of information, among others. The analysis of these risks is made from a qualitative point of view, including reflexive and self-reflexive exercises and the use of journalists as direct sources.

Morales (2005) proposes a view of the changes that journalism has undergone as a field for investigation. He also analyses the dynamics of information, journalistic routines, legal and work-related issues and the business processes that surround journalists. "There is a coincidence between the theoretical with the new media: they are also creating a new way of doing journalism to meet the demand of an audience that grows day by day, a market in geometric expansion and of course, the need to understand it and investigate it (Morales, 2005, p. 103).

Other studies have focused their reflection on the changes and new strategies that media companies have implemented to adjust to the formats of "new media" and compete online with the development of products, especially that of digital journalism. However, this has resulted in serious differences between the production of informative reports published online and those published in print.

In the Latin American context, the Editorial House *El Tiempo* (Colombia) organized an event to share the experiences of digital communication products from the most important newspapers on the continent. An academic activity (Franco y Guzman, 2007) revealed a survey conducted across 18 countries that collected the experiences of the main newspapers of Latin America with the goal of creating a general overview of newsrooms in terms of their use of new technologies and how they apply them. In addition, the Fundación Nuevo Periodismo Iberoamericano (FNPI), along with Google and the Corporación Andina de Fomento (CAF), organized a gathering of 25 online news editors in 2008 that was titled *'The future of online journalism and the professionalization of online writing'*. This event demonstrated the state of the media in terms of how they interact with the Internet as well as characterizing the advantages and risks of technologies for the journalistic profession (FNPI, 2008).

Regarding the changes in journalism and the deontological ethics of the journalism, Uranga (2008) proposes that there needs to be reflection on the importance of analyzing the changes that have been presented in the connotation of journalism in the new age of globalization, given that the insertion of ICTs have modified the work of newsrooms in their production of reality. All of these technologies have come from the "easiness" of digital media that allow greater immediacy and interactivity and have modified the relationship between the media, journalists, audiences and the public.

Even if many technological transformations have impacted on the writing of news, through the appearance of the new technological tools it is important to ask what has occurred in the area of journalistic production and what responsibilities media companies and journalists have had to assume, even if they proclaim to be independent in the construction of social reality.

Following on from this perspective, Uranga highlighted what is a necessary reflection on journalists as primary subjects of the communication process that produce news and informative content, which facilitates the dialogue of citizens in public spaces. In such a way this makes it necessary to deliberate very directly on the role that journalists play in a media-based society, in which 'what doesn't appear in the media doesn't exist'. The journalists or content-producers are directly responsible for providing this media visibility. In this context, Uranga asks "Has the profession therefore changed? What new responsibilities have arrived in this area in which journalists play a more and more decisive role in the construction of "common sense", understood as the criteria that hegemonizes the interpretation of social events? (Uranga. 2008, p. 15).

It is clear that in the evolution of the globalized world, the convergence of media requires versatile professionals that are capable of providing multi-media responses. What results is a new professional profile that demands that they are able to write texts designed for the web, to understand hyperlink reading and create dialogue between their texts and photographs, audio and videos that, in many cases, will also require production and post-production. This represents a new type of journalist that should develop their multi-media skills, write while specifically thinking about how the internet can support their text, know basic principles of HTML code and be able to register and later digitally retouch photographs, audio and video.

This new profile is necessary to tackle the urgent news, that which is breaking. However, all media organizations agree that to maintain the concept of expertise in distinct fields such as writing, photography and audiovisual production, they will need to form inter-disciplinary teams that could ultimately affect the quality of their journalistic content.

The point of arrival

In terms of the new changes in journalistic practices, these are a product of the acquisition of new technologies by media companies, so that they can be more immediate, timely and true. For these companies to sustain themselves in the industrialized information market, they also have to participate in and win more space in the world of digital communication. This has resulted in the creation of news portals and new journalistic multimedia initiatives that are full of informative products with a global focus. This has meant that the regional media have lost their own agendas, putting at risk a part of the social purpose of journalism at a local level. This affects the role of journalism to act as the bridge in seeking alternative solutions from the public and private sectors, as well as from local communities and the State.

These new practices and uses of technological tools, as well as impacting on the design of informational agendas of regional media outlets, reduce the importance of being geographically close to a news event in order to verify information about the event. This has resulted in apathy about acquiring or buying access to the media product in order to read it. The users of local media want to know the social behavior of their region, the economic situation that surrounds them and the political-administrative decisions that are taken by their elected representatives. However, the absence of this service it puts into danger the very existence of regional media. Media bombardment of the individual is now regulated by technological factors, which are currently controlled by the large media and corporate companies and are affected by the law of free markets that impose their own rules and agendas.

Notes

1   These practices are understood as the constant interaction with others and with the world, and the adjustment of these relationships determine some collective practices, known as social practices, that are going through constant transformations in the different journalistic formats (press, radio, television, websites) and their informational products are validated through their corporate and industrialized needs.

2   A code of ethics reflects on the moral dimension of a determined activity to define the ethical norms that should guide it. But the deontologia in itself doesn't have any more effectiveness than that derived from the persuasion and commitment that it creates in individual consciousnesses. It is self-regulation, that which is in charge of making the deontología effective. (Aznar. 1999. p. 12).

3   Journalist, teacher and researcher from the Universidad de Buenos Aires and La Plata.

4   In an interview carried out on the 3rd of December 2010, Ricardo Areiza highlights that a journalistic medium, and especially the print media from regions such as Huila, require a journalist with competencies in the production of information; that is familiar with technological help and that knows how to use social networks, as well as how to design websites, edit and upload videos, and have the skill to access databases from different institutions or other sources related to their area of work, whether it is sports, politics, economics or the law.

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University of West London

An Overview of Digital Media in Latin America

Carlos Arcila Calderón, Mabel Calderín & Cosette Castro (Eds.)

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