Introduction

The quality of the communication among human beings has been and will be a decisive factor in all those media which tend to reduce the digital gap among the users and maintain the horizontality in the free access to the information which currently circulates in the social networks. The momentum of the social networks in the era of the expansion of communicability entails implicitly a set of elements related to the design categories of the new devices many are not aware this factor (Cipolla-Ficarra, 2013). In some products and services, once the pertinent evaluations are made, they show that the lack of knowledge encompasses all the members of the production process and use of said devices. The consequences of this not-knowing, voluntary or not, may be negative from the point of view not only of communicability, but also from the current economic-financial aspect, especially in the software sector and the hardware of the interactive systems, whose contents are aimed at the future generations of multimedia goods and services.

In the current book we are trying to present the main elements in the computer and training for social networks context, as well as the factors that boost communicability with the purpose that the democratic spirit of the Internet survives. This main goal is coupled with a set of scientific, theoretical and practical services. In each one of them the most relevant and avant-garde aspects of the new technologies aimed at the social networks are approached, such as the education and the human and sociological factors. That is to say, the books will present previously unseen content which may serve as a kind of compass for the next decade, avoiding to make the classical mistakes in the current multimedia/hypermedia systems that stem from the lack of quality in the interactive communication.

The necessity for this book comes from the fact that currently a set of non-democratic elements deriving from the automatic information systems exists in the social networks, which, although they were born democratic and horizontal for all human beings, little by little have left horizontality behind and have created an elitist summit which tends to increase the digital gap among the users. This is particularly the case in the educational environment, as well as in the economical aspect and in the technological one. Therefore, the education of computer science in the era of the expansion of communicability will be one of the cornerstones and the common denominator of the works that make up the book. Besides, the works aimed at the social networks will have to follow the epistemological parameters of the social sciences leaving aside the mercantilist or statistic aspect of little veracity of the information sources. Moreover, one of the implicit goals of the current proposal is to eliminate the technological mirages to avoid irreparable damages to the future generations of experts in the field of ICT (Information and Communication Technologies).
In our days quality in communication is the main goal of software and hardware of ICT devices, and especially since democratization of the production of the multimedia/hypermedia contents on line is assumed for present and future generations, and is rightly taken for granted. However, that preexistence is missing in a myriad cases due to human and/or technical factors.

In the second decade of the new millennium, discussion surrounding social networks is widespread; in terms of means that we are referring among other applications relating to Facebook, Twitter, Google+, YouTube, Linkedin, Instagram, Conference Blog, etc., each of of these different systems and has both its positive and negative aspects, which are explored in later chapters and with examples given in the annexes 1 and 2. Now the denominations of those programs, mostly belonging to the category of free software, and have in many cases entered into the daily vocabulary of millions of users of interactive systems, whether established through a communication with the traditional computers, or the more recent technological generation multimedia devices. Aside from the cost of those devices and/or the ease or not in their use, the end goal is always the same: communication.

Communication has been the cornerstone of the activities of the human being since prehistory. That is, human communication has its remote origins in the evolution of the daily coexistence of the human beings, especially in the need of getting in touch with “the other”. Gestures, sounds, onomatopoeias, etc., make up the basis of the alphabets of the diverse civilizations that have peopled our planet across the millennia. Those alphabets of life can be examined in detail and with a masterful richness in the exceptional compendium of Professor Kim Henry Veltman “Alfabets of Life” (Veltman, 2014).

In that yearning to communicate with the other, exists little by little, the technological breakthroughs deriving from the industrial revolution for communications, the theories of social communication, and the traditional mass media (that is, the press, cinema, radio and television), and which taken together are witnesses to a great (r)evolution in human communication along the 20th century.

The stories of the “War of the Worlds” by Herbert George Wells (Gorey & Wells, 2005) and the radio broadcast of the 30th October 1938 by George Orson Welles laid the basis of the notions published in “The Global Village” by Marshall McLuhan (McLuhan & Powers, 1989). A global village was envisaged where face-to-face communications among humans would be through the computer screens and multimedia mobile phones; in a only a few short decades these would come to pass, thanks to the democratic expansion of the digital contents in the internet: text, audio, pictures, computer animations, etc. Once again the natural or artificial context where the human being is inserted would accomplish a fundamental role in the communication process.

Soon after arrived the so-called traditional media of audiovisual communication: cinema, radio, television, etc. There were moments of grouping of those inhabitants, in the face of the technological devices whose initial costs were not affordable for the great majority of the population in the 20th century. That is, there was a concentration of people in a same space and time, whether to watch a film at the cinema, listen on the radio to a presidential speech or watch the sports news on television, for instance.

Those are uses that have turned into habits in certain nations in view of certain contents of the traditional media of social communication. In some cases and geographical places, those uses and/or habits have completely disappeared. In other places they still persist and resist the passing of time, and the constant advance of the “New” Technologies of Communication and Information (NITC). These initials need a greater accuracy. Currently, instead of talking of “new”, we might perhaps speak of latest technologies, bearing in mind the great advances achieved minute by minute in all of the serious research and development labs across the planet.
Simultaneously, a strategy had to be sought so that at least the main contents (i.e. research results) were quickly at the disposal of the great majority of the population pyramid, until they could purchase those goods and/or digital services. In few words, to decrease partially and momentarily the digital divide. Aside from these remarks, the truth is that nowadays the social networks have not only changed the habit of group communication, that is, face-to-face, towards the individual and isolated data from the real context, even inside the same family, sharing under the same roof, but they are also at the service of those who foster the chaos of tyranny versus the cosmos of democracy.

A negative and easily verifiable example in the scientific publications of the sector, is how little or nothing has been done (in a particular sense) by the university researchers of the mathematic, computer science, economic environment, etc., and specifically to face the greatest financial crisis in the history of contemporary human kind. Simultaneously, establishing strategies to prevent other similar phenomena (which are cyclically repeated) from occurring the financial-economic context, would seem to be essential. Instead of finding original solutions to the crisis or presenting creative proposals to within and for society, from which they get their lifelong salaries, as is the case of Spanish, Italian, Portuguese, French, etc. (nations where they are perennial civil servants of the public administration). Many of them Catalans or Lombards in the last three decades and in the European south have devoted themselves to “invent the garlic soup” (Romero, 2000), or “changing everything so that nothing changes” –leopardism (Di-Lampedussa, 2007). A couple of popular Spanish and Italian sayings, respectively, denote a sad reality, but for a few exceptions. The high unemployment rates make apparent that the educational system of those nations hasn’t worked, –nor will it work in the future (from the perspective of improved life-chances etc). The negativity towards the future, in the short, middle and long term is (in part) because in those communities of the old continent (i.e., Aalborg, Aarhus, Barcelona, Bari, Bergamo, Bilbao, Bolzano, Brescia, Como, Crema, Cremona, Donostia, Graz, Koblenz, Leipzig, Lisboa, Lugano, Lérida, Gerona, Madeira, Madrid, Mannheim, Milan, Oporto, Palma of Mallorca, Pisa, Rome, Salerno, Saragossa, Tampere, Tarragona, Trento, Turin, Twente, Udine, Valencia, Venice, Vic, Zürich, etc.) those who allegedly work on the technological solutions, transfer from the university to society and/or vice versa, research, teaching, etc., are some of the origins of the current problems. Besides, the future generations of professionals have trained in public, private, hybrid universities, under lax norms for the attainment of academic titles.

A phenomenon which has been a factor tending to increase the statistical number of the university degree holders in the EU, but who haven’t received training of an especially gainful human, formative, theoretical and practical quality. In short, they have generated poorly educated people with limited vocabularies, outlooks, perspectives, which may have a tendency to deform (or limit the outlooks and capabilities) of the future generations. The social networks are a good indicator of those deformations through examples of cyberbehaviour/bullying lowest common denominator communications/fight to the bottom etc. Cyber behaviours which go beyond the limits of the set of rules that make up legality and come fully in the set of criminal acts.

In their utopian thinking, some bureaucrats and technocrats believe that just with the social networks, the ICTs and the reduction of the digital divide they will generate great qualitative changes in daily life. However, it is necessary to remember that education, together with health care, are the two mainstays of any developed society. The educational sector is unfortunately one of the sources of the current problems, especially in terms of the low life chances/possibilities experienced through unemployment that millions of citizens are suffering in our days. Education does not happen only at university, traditionally it was after leaving university that a professional began his/her professional training and learned his/her
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Figure 1. The use of comic in the digital newspaper to draw the attention about unemployment in Spain (the official number of unemployed people reached almost 6.1 million) –www.elpais.es, 09.01.2013

Figure 2. Growing abandonment of the population in the countries of the south of Europe. For instance, the Spanish youth migrate towards emerging countries in the Americas, Asia and Oceania –www.elpais.es (06.30.2014).
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craft for real. Unfortunately, the educational directors cannot see that they are training people to enter professions that do not exist, or else that have changed so much that there training is entirely out of step with reality. Many individuals will have to create their own jobs, and be entreprenatural; because the Jobs lost in the West to the East were not coming back any time soon. Educators sometimes who can’t even sell a kind of publicity spot of a few seconds, claim that the solutions go through just knowing how to use the new technologies and participating actively in the social networks.

Today through the social networks it is very easy to see how graduates, engineers, doctors, etc., in mathematics, nuclear sciences, physics, chemistry, audiovisual, computer science, etc., are not prepared to seriously face the issue of the disabled, the education of children, the interactive games for the elderly, etc. Those are individuals who intermingle and interrelate in the scientific programs of the conferences, workshops, seminars, etc., both national and international, to keep on exerting an infinite pressure, manifest or latent, on the rest of the scientific community. They do it through very well planned attacks and disguised from the groups where they belong. Now one of the advantages of the social networks is the possibility of carrying out methodologies and analysis techniques to detect them, although the temporal variable still remains the weak point of these methods to prevent them.

Besides, it is not feasible to eradicate them (cyber destructors), because the current legislation in cybernetic issues is slow and even inexistent. Consequently, the application of cybernetic justice in many places of the so called “developed” countries is virtual. In other words, they enjoy total immunity. The absolutism of that immunity reminds us of the advance of the totalitarian systems in the Europe of the first decades of the 20th century. In front of the totalitarian invaders, the scientific sector kept on working for them as if nothing had happened. Once again we realize the importance of the words of the author of the Quixote (De-Cervantes-Saavedra, 2005), Don Miguel Cervantes de Saavedra, when he spoke of history as “… a rival of time, storehouse of deeds, witness for the past, example and counsel for the present, and warning for the future” (De-Cervantes-Saavedra, n.d.). That is, those who are not concerned by the current crisis (i.e., adult employment and/or neet —not in education, employment, or training; is equat to wild marketing/commercial online, in education sector) and they will not change their modus operandi thanks to the financial resources they have available and the libertinage. In other words, the social networks inside the current global village, are like the social communication of the 80s, the multimedia/hypermedia in the 90s, the virtual reality in the late 90s, etc. and are fated to have two big groups among the potential users, which following the traditional division by Umberto Eco we could call integrated and apocalyptic (Eco, 2001). That is, positive and negative aspects.

In the global village of the 20th and 21st centuries, there is an eternal and constant communicative dynamic persuasion by a few (Cipolla-Ficarra, 2010), which contradicts and attempts against the democratization of microcomputing, the hypermedia systems, telecommunications, nanotechnology, robotics, etc., and in terms of in (what should be) an the era of unprecedented expansion of communicability, and with the end-goal set on the transition towards the era of autonomous nanotechnology communicability (the quality of the communication among the human beings, self-sufficient automat and nanotechnology devices).

Every time that there is a democratization process in terms of computer science services on wide-area networks such as the internet, a co-evolutionary process towards occurs toward the basis of the pyramid of the population the reappearance of the same power and pressure groups takes place. That power and pressure is exerted in order to diminish the quality and the potentiality of the multimedia services which can be obtained with the social networks. An excellent example in the last quarter of a century is the drop in the costs of international phone calls down to (effectively if one ignored elec-

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Figure 3. Map obtained from the analysis of the social networks to determine the interrelations of the online and off-line attacks aimed at destroying international events through corrupt employees in European scientific publishers, students and university professors, etc. (the acronyms are equal to university, department and country) In few words, the parochialism of the Garduña (Cipolla-Ficarra, 2013).

stricty, network connection costs, computer/mobile costs, etc.) to free videoconferences, and through the personal computer. Undeniably these scientific advances contradict the financial interests of the state monopolistic firms of the European telecommunications, for instance (or do they –the telcos still get paid by internet traffic in one way or another –and according to volume no less –the Internet is not really free!). Those interests favours said companies since in the 90s the costs for services of international phone in Spain (Telefonica –www.telefonica.com) were the highest in the areas that spread between Lisbon and Moscow (Barnes & Meyers, 2011). The same would happen later on with mobile phones, where the telephonic entrepreneurial monopoly applied a high commission every time that the user bought a reload of the mobile phone calls.

The consequences of all those deviations nowadays make up a part of the working place reality of those countries through the statistic data of the unemployed and the youth who migrate from their countries of origin because of the lack of jobs. However, thanks to the social networks it is easy to detect the metamorphosis of those telecommunications ventures, through R&D activities and with the support of universities, foundations or other kind of organizations, where workers are requested for international projects when legally and physically they are to be found in countries with over 6 million unemployed, as is the case of Spain. Oddly enough, in those countries there are hundreds of thousands of engineers
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in telecommunications, computer science graduates, programmers of applications for web 2.0 and web 3.0 etc, capable of holding those posts and who are looking for a job.

In countries with an unemployment rate over 6 million of unemployed there must surely be specialized professionals in new technologies to cover those posts. However, this is a small example of how the social networks are used with the purpose of deceitful publicity. Another picaresque example is the online self-promotion that the alleged heads of departments, research programmes, etc. make in the hybrid universities (apparently with a public or secular structure but controlled by religious groups) with the subsides obtained from the EU or the banks drawing the attention of the future students or rather clients who sooner or later will join the ranks of the unemployed or the masses who choose to emigrate. Thanks to that information it is easy to detect the corruption and/or psychiatric problems (bipolar disorder, for instance) of those characters who manipulate the social networks, the total lack of controls in the centers where they perform their services as in the figure 5, where banks are mentioned to draw the attention, when popularly they are loathed by a great part of the population due to the damage caused to the productive tissue of goods and services and therefore to the labour market of all those who must pay the registration fees of the graduate courses, engineering, masters, PhDs, etc. The current problem is the poor training that the users of the social networks have to quickly detect those mermaid songs,

Figure 4. Use of university portals in the USA and/or EU (i.e., dbworld jobs announcement –https://research.cs.wisc.edu/dbworld) to foster mobility in scientific context resorting indirectly to boost the illegal migration and/or the rubbish contracts in the EU (a contract is called rubbish contract when the conditions that are legislated in the contracts are miserable or with leonine conditions favouring the employer).
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like Ulysses, in the classic literary work, “The Odyssey” (Evspin, 1969). Some mermaid songs originate from the educational institutions, others in the traditional media, and thanks to the control exerted by those educational institutions, in the traditional mainstream media, and whether it is for technical issues (providers of technicians and specialists for the functioning of those media: sound engineers, audiovisual technicians, videocamera operators, etc) or political (main source to pay the salaries of the employees in those universities), just to mention some examples.

The concentration of power at the summit of those educational structures contradicts the foundations of the democratic system of a nation allegedly free and sovereign. Such a centralisation of power already avails itself of the applications of the social networks; not only to maintain it, but also to replicate it, transform it, multiply it, and prolong it through the decades. A way to detect them is through the online propaganda, disguised as institutional university publicity. However, the power of persuasion is very high, and the future students or their parents lack the cognitive tools to detect them ion time and thus avoid falling into the swindle net.

Now the positive factor of the democratization of the internet among the young has led to a negative subfactor such as the lack of concentration in the reading of texts. Since the 90s, with the advance of the interactive design and the adaptation to the hypermedia contexts, a change has taken place in the traditional models of structuring the textual contents of the analogical newspapers in the digital supports. A process in which not only the notion of the inverted pyramid has been respected, but also has reduced the text to a minimum. In this sense, applications such as Twitter have fostered non-reading among the young, and the wiring of a text “kernel” style (only the core of an issue in 140 characters, including the gaps, or 120 if there is a link or an image). This shortness of the message bears a direct relationship with the origins of the Internet, such as was the transmission of messages among different places of the US geography.

Some social researchers claim that among the teenagers the lack of interest towards the reading of complete books (i.e., the great works of universal literature), the growing inability to carry out mentally basic mathematic operations (divide, multiply, subtract and add), the noncommunication with other members of the family nucleus, study colleagues, friends, etc., and at its epicentre the social networks, without considering the other variables which intervene in the education process, such as the quality level of the didactic and educational contents, whether they are interactive or not. As it has been previously mentioned, education is one of the cornerstones of societies that tend to define themselves as developed. The inclusion of professionals non akin to pedagogy inside issues related to social or interactive communication etc., has generated destructive groups, strongly interrelated at an international level and who use the networks to carry out their delinquent activities.

Once their profiles are analyzed in the social networks, and placing the temporal variable alongside posts and happenings, with the passing of the months it is seen that it is they who boost the digital divide, the mobbing and university stalking, the destruction of international events (conferences, seminars, workshops, etc.) the prizes in the framework of the ICTs rigged beforehand, the illicit obtainment of financial funds for R&D pseudo projects, and a long etcetera. In short, they are members of the Garduña (Cipolla-Ficarra, 2013). If in the Internet those destructive parochians could be easily excluded, the positive factors of the social networks would prevail over the negative.

Their authors keep on working and studying normally in their respective institutions, since in many European communities there is a legal void in these issues. Besides, there is the possibility of hiring legal and informatics services to erase the any damage caused in the virtual communities. Once again can be seen the malleability of online information. In few words, a digital laundering to eliminate ad
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eternum all the evidence of the crimes committed by the cybercriminals and their colleagues, through the anonymity that allegedly the social networks offer. In the view of such nefarious examples stemming from the social networks for those authors, their accomplices and followers, an old Spanish saying applies: “Tell me who you go with and I will tell you who you are” (Romero, 2000). In the annex #1, listed are examples of destroying messages of the social networks and the democratic advance of the
formal and factual sciences. Aside from those human and social factors, in these pages we have tried to gather a myriad works from the formal and factual sciences, regarding as their origin and/or design of interactive systems. A design which can be divided into categories for its better understanding, such as: the content, the presentation/layout, the navigation, the structure, the synchronization of the dynamic and static means (panchronism) and connection. In relation to these categories and the intersection of the formal and factual sciences, some of the main topics which are approached in the current book are Internet, computer science, computer graphics, computer animation, interactive design, communicability, videogames, education, security, human and social factors, sociology, social communication, etc. In other words, we intend to have a first 360 degrees vision of the phenomenon of the social networks, considering a wide range of variables, stemming from the formal and factual sciences and tending to increase the quality of the communication.

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