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NOVA COMUNICAÇÃO E IGREJA. INTERNET E (N)TIC: “REPLASMAR” A IGREJA  
PARTE I - A NOVA COMUNICAÇÃO NA MULTIMÉDIA E NOS SEUS REIFLEXOS  
ANTROPOLÓGICOS: (N)TIC - INTERNET

SESSÃO A

A VALÊNCIA TRIPARTITE DA NOVA COMUNICAÇÃO NA MULTIMÉDIA

# REDISTRIBUIÇÃO DA EXPERIÊNCIA - MÉDIA INCENTIVADA - ESTRATÉGIA AUTOGESTÃO



THE THREE KEYS: RIDISTRIBUTION OF HUMAN EXPERIENCE – FORWARDED  
MEDIALITY – SELF-CONDUCTED STRATEGY

## CAPÍTULO 1º A NUOVA COMUNICAÇÃO COMO REDISTRIBUIÇÃO DA EXPERIÊNCIA HUMANA ULTERIORMENTE IMPLEMENTADA



Para compreender qual poderia ser a capacidade da Igreja de entender e receber plenamente o que a nova comunicação torna possível à experiência humana, é necessário recordar alguns elementos específicos da fase “multimédia” atual que a tornou possível. Em seguida – visto que nos interessamos pelos últimos passos dados pelas (novas) tecnologias da informação e da comunicação – devemos nos demorar sobre esses dados para avaliar as implicações antropológicas e ulteriormente eclesiais como resposta de envolvimento que a Igreja pode dar. Tentando individuar a especificidade da nova comunicação (segundo a terminologia em uso: (N)TIC – (N)ICT (novas) tecnologias da informação e da comunicação) a maioria das vezes se percebe que mais do que tudo, ela está na fase de início da ‘communication age’ ou ‘idade (era) da comunicação: como um estado de contínuo aprendizado por meio da rede comunicativa planetária a distância introduzida pela Internet em todos os campos da existência e da experiência (conhecida como “learning society”)<sup>1</sup>. Esta “learning society” seria a posterior aceleração do que está se conformando como ‘sociedade do saber’, segundo a terminologia das organizações internacionais. Pergunta-se então se tudo isto não parece uma retórica típica destes ambientes, que esconde uma visão antiquada do ‘saber’ como tal e do ‘conhecimento’, os quais seriam entendidos quase materialmente, como um tipo de recurso a explorar (no sentido já clássico do materialismo,

<sup>1</sup> G. Hernes, *Emerging Trends in Ict and Challenges to Educational Planning*, in «Internet» 2005, <http://www.schoolnetafrika.net/fileadmin/resources/Emerging%20Trends%20in%20%20ICT%20and%20Challenges%20to%20Educational%20Planning.pdf> (pdf page 23): «The ICT revolution has been very much about spotting opportunities and inviting everybody to learn to make good use of them. Indeed, the ICT revolution is perhaps above all else a revolution in learning. Individuals have seen the potential of the new tools and introduced them into their homes on a vast scale. Firms have applied them to an ever-widening range of activities: bookkeeping, production control, management, communication, marketing, and drug development. Public authorities have incorporated them into all of their activities, from vaccination programs to tracking criminals».

marxismo, capitalismo)<sup>1</sup>. Certos líderes dos meios eclesiásticos parecem identificar-se com estas interpretações<sup>2</sup>. Esta retórica remete ao visual do pós-modernismo recorrente<sup>3</sup>. Chegar-se-ia - com tal retórica- a um sistema que permite referir-se a cada um individualmente (no seu ‘capital humano de ‘saber-aprendizagem’) a esta ‘informação-saber-aprendizagem’ no sentido neo-liberal<sup>4</sup>. Os primeiros passos desta formulação aparecem nas reflexões de D. A. Röss<sup>5</sup> acerca da idéia de mudança, depois com Robert M. Hutchins sobre a inadequação dos sistemas educativos<sup>6</sup>, em seguidas com Torsten Husén, o qual reenvia à ”explosão do saber”<sup>7</sup> e será revisto por S. Ranson<sup>8</sup>. A ligação com a “globalização” se esclarece com C. Hughes e M. Tight<sup>9</sup>. Entre retórica e evocação

<sup>1</sup> D. S. Gouvias, ‘Pay as you learn!’ *The ‘Learning Society’ Rhetoric in the EU-Sponsored Research Projects*, in «Internet» 2008, <http://209.85.135.104/search?q=cache:ldBQCEsnIBYJ:libr.org/isc/issues/ISC23/B5%2520Dionysios%2520Gouvias.pdf+new+communications+learning+society&hl=it&ct=clnk&cd=7&gl=it> (html page 7): «*Knowledge and ‘Learning Society’? ‘Knowledge’ is considered – by the dominant discourse, that is — a major ‘production factor’ in a post-materialist, technologically advanced capitalist world. This misinterpretation masks the fact that, although modern economies are based not only on material resources and traditional industrial-production processes, but increasingly on abstract, non-manual, mental labour, the relations of production remain invariably what K. Marx had so vividly and analytically described back in the late 19th century: unequal and exploitative. Our small and dispersed ‘knowledge societies’ – and we are talking of course about the Western World, not acknowledging the contribution of cheap manual labour to our knowledge-based economies— depend, sometimes almost exclusively, on knowledge that is produced, controlled, transmitted and manipulated by large multinational corporations, which possess monopolistic or oligopolistic privileges in the world market(s). Thus, instead of giving opportunities for human emancipation, the new dominant discourse that perceives knowledge as something ‘neutral’ and ‘objective’ – which is ‘somewhere out there’ ready to ‘be grasped’ and utilised by isolated disempowered individuals— paints a rather illusionary picture of the world and entails the danger of creating new forms of disempowerment, alienation and subordination (Stamatis, 2005, p. 119; for more theoretical elaboration see Kastells, 1996; Hill and Cole, 2001; Rikowski, 2002)».*

<sup>2</sup> D. Martin, *First Session of the Preparatory Committee of the “World Summit on the Information Society”*. Intervention by H.E. Msgr. Diarmuid Martin. Wednesday, 3 July 2002, in «Internet» 2007, [http://www.vatican.va/roman\\_curia/secretariat\\_state/documents/rc\\_segst\\_doc\\_20020703\\_martin-information-society\\_en.html](http://www.vatican.va/roman_curia/secretariat_state/documents/rc_segst_doc_20020703_martin-information-society_en.html): «In the social and economic realities of our contemporary world, access to knowledge is a key to an accelerated path to development. The World Summit on the Information Society is called to consolidate a vital column of the global development architecture. Communications technology has enabled the globalization process to proceed with rapidity. We must now ensure that it also enables the globalization process to proceed with equity. Communications technology must be managed to play a central role in ensuring that globalization leads to genuine integration and inclusion. Pope John Paul II has noted that many people, perhaps the majority today, “have no possibility of acquiring the basic knowledge that would enable them to express their creativity and develop their potential. They have no way of entering the network of knowledge and intercommunication that would enable them to see their qualities appreciated and utilized. Thus, if not actually exploited, they are to a great extent marginalized. Economic development takes place over their heads” (Pope John Paul II, Encyclical *Centesimus Annus*, n.33)».

<sup>3</sup> D. S. Gouvias, ‘Pay as you learn!’ *The ‘Learning Society’ Rhetoric in the EU-Sponsored Research Projects*, in «Internet» 2008, <http://209.85.135.104/search?q=cache:ldBQCEsnIBYJ:libr.org/isc/issues/ISC23/B5%2520Dionysios%2520Gouvias.pdf+new+communications+learning+society&hl=it&ct=clnk&cd=7&gl=it> (html pages 5-6): «*The Rhetoric of the ‘Knowledge Society’* The whole OPEIVT II value-framework is, among other things, a ‘shrine’ to post-modernism and the notion of ‘knowledge’ is used and analysed exclusively through that theoretical and methodological standpoint. According to post-modernists, the scientific rule ‘as long as I can produce proof it is permissible to think that reality is the way I say it is’, is being currently challenged by the rule ‘(valuable) knowledge must be considered only what can be applied and measured according to predetermined performativity criteria’ (Lyotard, 1984, p.53). This creates a need for experts (that is, high and middle management executives, computer scientists, cyberneticists, linguists, mathematicians etc.), whom the educational institutions are called on to train. Outside the Universities, or institutions with a professional orientation, knowledge will ‘no longer be transmitted en block, once and for all... rather it will be served à la carte to adults... for the purpose of improving their skills and chances of promotion’ (p. 49). This mentality is conspicuously present in every policy directive towards the reform of the ‘system’, not only at the highest, but also at its lowest echelons. As it is suggested in most of the official documents of the competent Greek and European authorities, lifelong learning is ‘addressed’ to individual learners and is inextricably linked to ‘adaptability’ and ‘employability’. The main aim of the various EU Operational Programs (not only of the OPEIVT II) is to create: ‘an integrated system which builds complementary links between education, vocational training, access to the labour market, lifelong learning and the continuous vocational improvement and professional development of the labour force’ (European Commission, 2003b, p. 2)».

<sup>4</sup> D. S. Gouvias, ‘Pay as you learn!’ *The ‘Learning Society’ Rhetoric in the EU-Sponsored Research Projects*, in «Internet» 2008, <http://209.85.135.104/search?q=cache:ldBQCEsnIBYJ:libr.org/isc/issues/ISC23/B5%2520Dionysios%2520Gouvias.pdf+new+communications+learning+society&hl=it&ct=clnk&cd=7&gl=it> (html page 11): «One more implication of the life-long learning rhetoric – which is at the top of the agenda, not only of the OPEIVT II funding, but also of the Greek government’s recent legislation (1) — is the increasing cultivation of the idea of ‘personal responsibility’ for any future ‘investment’ that a person may wish to make in order to improve her/his negotiating power in a highly competitive labour market. In other words, the ‘human capital’ – as a revamped Marxian ‘labour power’ – is now the key-word, and it is the tool – the only tool, some might say – that a person can ‘trade’ in order to survive in a world of uncertainty and high risk (Beck, 1992). Individuals – and not ‘citizens’ – are being seduced to ‘invest’ in their future well-being, by accumulating ‘credits’, ‘learning units’, ‘training certificates’, ‘diplomas’ and many other ‘trading tools’, which in turn will have to present to their prospective employers. ‘Flexibility’, ‘adaptability’ and ‘openness to the labour market’ in teaching/learning are the main driving forces in the quest – for the EU — to becoming ‘the most competitive and dynamic knowledge-based economy in the world’ (2). As a result, and in line with traditional and modern neo-liberal principles, what the human capital approach of the OPEIVT II (and not only) is promoting is a solipsistic individualism, which rules out every prospect of social solidarity and collective action (Stamatis, 2005, pp.160-169)».

(1) In May 2005 a new Bill on Lifelong Learning was passed through the Greek Parliament. The new Law gives to every Higher Education Institute (University or Higher Technological Institute) the go-ahead for the establishment of Lifelong Learning. This will be developed in separate administrative units inside each Higher Education Institute, and will have a wide discretion over the necessary funding sources. / (2) See the ‘Lisbon Strategy’, as described above.)

<sup>5</sup> D. A. Schön, *Invention and the evolution of ideas*, London 1967 (first published in 1963 as *Displacement of Concepts*); D. A. Schön, *Technology and change: the new Heraclitus*, Oxford 1967; D. A. Schön, *Beyond the Stable State. Public and private learning in a changing society*, Harmondsworth 1973.

<sup>6</sup> R. M. Hutchins, *The Learning Society*, Harmondsworth 1970.

<sup>7</sup> T. Husén, *The Learning Society*, London 1974; T. Husén, *The Learning Society Revisited*, Oxford 1986.

<sup>8</sup> S. Ranson, *Towards the learning society*, in «Educational Management and Administration» 1992, n° 20(2), pp. 68-79; S. Ranson, *Towards the Learning Society*, London 1994; S. Ranson, *A reply to my critics*, in S. Ranson (1998) *Inside the Learning Society*, London 1998.

<sup>9</sup> C. Hughes – M. Tight, *The myth of the learning society*, in «British Journal of Educational Studies» 1995, 1998, n° 43(3), pp. 290-304 (reprinted in S. Ranson, *Inside the Learning Society*, London 1998).

ainda vaga, se percebe a necessidade de uma especificação mais explícita<sup>1</sup>. Talvez, a referência essencial de aprendizagem à rede e à web na nova comunicação poderia ser concretamente mais relevante<sup>2</sup>. Com o ‘saber’ ou ‘a informação’, a ‘aprendizagem’ teria encontrado uma ‘capa’ sob a qual limitar o processo de convivência atual em que cada um possa ser plenamente integrado. Porém a discussão se articula ulteriormente sobre natureza desta ‘capa global’.

Mas há também outras aproximações que consideram a ‘learning society’ num modo mais pragmático como possibilidade multiplicada de conectividade, sem que se tenha uma idéia geral sobre o que seja o ‘saber’ e o ‘conhecimento’ da informação: a urgência maior é de poder chegar através do uso dos ICT ao acesso efetivo para todos de todo o conhecimento<sup>3</sup>. Estamos diante de uma regressão com respeito à comunicação em termos de ‘meios’ e ‘uso’, ao invés de enfrentar a problemática da redistribuição da experiência humana? Como para outras tentativas latino-americanas no campo da “multimídia”, parece que se faça confluir numa única meta, seja o acesso às dependências como à conectividade com saber e a informação (com vistas a ‘learning society’). Veremos que esta focalização sobre a “medialidade” não fornece todo o espaço à incógnita e as promessas (ou desafios) da conectividade humana (cfr infra, cap. 2º). O mesmo reducionismo instrumental aparece na maneira de ver de certas Igrejas cristãs (cfr item infra). Certas contribuições asiáticas implementaram depois a visão de ‘aprender por toda vida’, enfatizando a tentativa que libera a perspectiva que mira a não restringir os campos do conhecimento a setores limitados (elitistas ou não) da comunidade humana, criando redes com potencialidade das TIC de aprendizagem e formação contínua<sup>4</sup>.

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<sup>1</sup> M. K. Smith, *The theory and rhetoric of the learning society*, in AA. VV., *The encyclopedia of informal education*, 2000, in «Internet» 2008, <http://www.infed.org/lifelonglearning/b-lrnsoc.htm>: «So what are we to do? It pays to approach the rhetoric of policy makers around the learning society and lifelong learning with skepticism. As Ranson (1998: 243) has commented: 'There is a need for greater clarity in defining the meaning of the learning society, and for establishing criteria which allow some rather than all usages to be interpreted as legitimated'. The notion of the learning society may have some theoretical and analytical potential - but it does require considerable work if that potential is to be realized. The strength of the idea of a learning society as a concept is that in linking learning explicitly to the idea of a future society, it provides the basis for a critique of the minimal learning demands of much work and other activities in our present society, not excluding the sector specializing in education. Its weakness is that so far the criteria for the critique remain very general and therefore, like many terms of contemporary educational discourse such as partnership and collaboration, it can take a variety of contradictory meanings. (Young 1998: 193). It is necessary to deepen our theorization of the relationship between education and economic life; to appreciate developments in our theorization of [learning](#); and to draw upon understandings of human beings as active, and cooperative, agents if the notion of the learning society is to move beyond the level of rhetoric (or even myth). It may well be that, as Richard Edwards (1997) suggests, the idea of learning networks or webs (after [Illich](#)) may be a more appropriate and convivial way forward».

<sup>2</sup> R. Edwards, *Changing Places? Flexibility, lifelong learning and a learning society*, London 1997.

<sup>3</sup> Ch. Courtright – Cl. San Sebastián, *Conectándonos al Futuro de El Salvador, Project Description*, in «Internet» 2008, <http://www.conectando.org.sv/English/ProjectDescription.htm>: «What is a Learning Society? It is a society in which [knowledge creation and transfer](#) become a fundamental development tool. The revolution in [information and communications technologies](#) (ICT) greatly facilitates this process, but is no guarantee of success. In a learning society, communities, businesses and organizations progress by sharing, assimilating, applying and systematizing knowledge that they either create or obtain locally, or access from abroad. The learning process is strengthened when undertaken collectively: in networks, associations, inter and intrainstitutional communications, among communities and nations. A learning society means more competitive and innovative nations and economic actors; it also results in improved standards of living all around. Learning is both horizontal (among groups, communities, sectors or nations) and vertical (among those more advanced on an issue or area and those striving to advance). Knowledge transfer has always been a major key to success worldwide, and throughout history. However, it has been a difficult endeavor –particularly for developing countries– due to problems of distance and lack of communications infrastructure. Today, the ICT revolution places communications, as well as unlimited quantities of information, at the reach of almost everyone. Information necessary for learning, and for social and productive activities, can be easily transferred, infinitely duplicated and broadly disseminated. Those who lack access to information and communications are at a serious competitive disadvantage. *However, even more important than information access is its use. Information is only the representation –or codification– of human knowledge. Learning is achieved by transforming knowledge and applying it to local situations. It means identifying opportunities and putting them to work through the assimilation of world knowledge and local realities».*

<sup>4</sup> HONEY BEE NETWORK, *Towards a Learning Society: Transforming KITE (knowledge, information, technology and education) networks*, in «Internet» 2008, <http://knownetgrin.honeybee.org/prof-IT-1.htm>: «In any society and at any historical moment, there are always segments and spaces which are endowed with tremendously high degree of (a) lateral instead of vertical learning, (b) ideational instead of functional learning and (c) dialectical instead of consensual learning systems. These spaces and segments either evolve into high growth points with in or outside the elitist social structures. A new art movement, production culture, educational pedagogy, or technological edge gets created and sharpened. The challenge is now to have such edges created not just in a few segments and spaces but all over the society. KITE (Knowledge, Information, Technology and Education) must fly and fly high, so to say, to create new networks which can reorganize themselves, self govern and be fused into or assimilated into different political, socio-cultural and even spiritual frameworks or belief systems. ... KITE networks overtaking kinship and other social networks: identity is a forceful need. Be it of cadre, religion, caste or family lineage. In a learning society, Networks of Knowledge creating, disseminating, value adding and rewarding groups, individuals and institutions provide new identities. These networks do not have alumni. These are lifelong networks. Roles change, responsibilities evolve but stakes do not dissolve. The raw material of civil society: voluntary associations for performing various roles and filling various niches which markets, and state leave unfilled, will constantly emerge and evolve. We do not flaunt our primordial identities as a passport to new institutions of learning, growth and stature. Politics that survives on that, slowly gives way to more accommodative (instead of exclusive) icons of identity. These icons are performance linked, service based and provide new niches for older skills and techno-cultural institutions to transform into more eclectic and universal learning based groups Dissolving Distances, Expanding Horizons: Choice of learning opportunities, accessible learning nodes, and local language based multi-media knowledge networks are necessary to overcome barriers of *language*,

*Um novo tipo de universalidade na diversidade e as reservas sobre 'todo universal' da comunicação vista como totalitarismo.*

Com a nova comunicação, fala-se, às vezes, em ciberespaço mais que de “sociedade do saber e da informação” ou de “learning society”, da qual nasceria uma universalidade na diversidade aberta, não mais fechada em uma totalização<sup>1</sup>. Há, sem dúvida, reservas em relação às “novas tecnologias” e, isto é, a convicção que elas não são mais do que um novo modo de dominar, por parte da superpotência americana no seu intento de imperialismo sobre mundo inteiro<sup>2</sup>. As modalidades desta totalização não passa mais através da imposição aberta, mas através o condicionamento psicológico dos indivíduos por meio das tecnologias da comunicação mais sofisticadas<sup>3</sup>. Realmente, universalização foi implantada no passado pelos reinos poderosos e centralizados e isto não seria mais o caso graças à distinção que se faz entre universalidade e totalidade<sup>4</sup>. A superação dos limites de espaço e de tempo poderia – então, segundo certos observadores- não ser mais que uma uniformização planetária sob forma de um “tempo e espaço mundial único”, última conquista –depois do descongelamento do confronto entre os “blocos”- de uma ideologia já abandonada sozinha sobre campo<sup>5</sup>. Mas, até aqui, estamos em presença de

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*literacy, and localism.* People should be able to learn even without literacy, in their own language and from innovations and ideas available not just locally but far and wide. Surprise is often a necessary condition for learning. ICTs (Information and Communication Technologies) make it possible for creating learning communities across age, class, language, skill, status and spatial boundaries. Honey Bee multi-media data base with touch screen facility has demonstrated how this can be done. Development is extending the time frame and expanding the decision-making horizon. The asymmetry in Knowledge, Information, Technologies and Education (KITE) can be overcome to a great extent by appropriate ICT applications. ... Learning society is a liberating society. It encourages pluralism, fosters creativity and innovation. Heterogeneity is harnessed for generating multiple visions, contested domains of knowledge, values and cultures in a creative and positive way. While some humanistic values are shared widely and universally».

<sup>1</sup> P. Lévy, *L'universel sans totalité*, in «Cyberculture», «Rapport au Conseil de l'Europe», in «Internet» 2007, <http://www.archipress.org/levy/cyberculture/universel.htm>: «Qu'est-ce que l'universel ? C'est la présence (virtuelle) à soi-même de l'humanité. Quant à la totalité, on peut la définir comme le rassemblement stabilisé du sens d'une pluralité (discours, situation, ensemble d'événements, système, etc.). Cette identité globale peut se boucler à l'horizon d'un processus complexe, résulter du déséquilibre dynamique de la vie, émerger des oscillations et contradictions de la pensée. Mais quelle que soit la complexité de ses modalités, la totalité reste encore sous l'horizon du même».

<sup>2</sup> C. G. Mont, *NEW COMMUNICATION AND INFORMATION TECHNOLOGIES: CHRONICLE OF EXPERIENCES AND CHALLENGES OF RESEARCH IN MEXICO*, in «Internet» 2007, <http://www.mexicanadecomunicacion.com.mx/Tables/FMB/mjc/mexican3/new.html>: «For many academics, the appearance of NCIT is seen as one more maneuver of U.S. imperialism in the region. The government yields to the giant national and multinational corporations that have only one goal: increasing profits (1). The social and cultural project remains relegated to a secondary position and many times is not even considered. The first skepticism grew out of this assumption. ... Technology is seen by these academics as coming from highly industrialized countries, with few applications to the means of economic, political and social growth in the Latin American region. From this point of view, these technologies are developed in societies totally different from ours and the process of adaptation is always carried out with a certain amount of difficulty and under less favorable circumstances. ... During the decade of the 1980s, two important projects in the field were created in Mexico: the Center for Economic and Social Studies on the Third World (CEESTEM), where the Communications Committee created an academic studies program centered on information technologies covering four areas: Informationalized Society (Patricia Arriaga), Information Systems (Enrique Quibrera), Satellites (Ligia Ma. Fadul) and Video and Home Technology (Carmen Gomez Mont). The concern of this group of researchers was to study the economic and political factors involved in new communication systems. In addition, the Latin American Institute for Multinational Studies (ILET) also developed a program on the study of NCIT, primarily focusing on the subject of satellites (Héctor Schmucler), New technologies in general (Fernando Reyes Mata) and databanks and data bases (Soledad Robina). The ILET also tried to shed light on the manner in which communication would take on the multinational character of the NCIT. The first center fell apart in Mexico in 1983 and the project collapsed with it; the second recently closed in Mexico, leaving a home office functioning in Chile (2)».

((1) Arriaga, Baldivia et al. *Estado y Comunicación Social*. CEESTEM/Nueva Imagen, Mexico City, 1985. / (2) During its best times, notable researchers such as Rafael Roncagliolo, Armand Mattelart and Cees Hamelink, among others, worked with this center.)

<sup>3</sup> P. Jarvis, *Everyday Learning in an Information Society: Towards a New Totalitarianism*, in «Internet» 2008, <http://www.oise.utoronto.ca/CASAE/cnf2007/Proceedings-2007/AERC%20CASAE%20RT%20Jarvis-2007.pdf> (p. 733): «Abstract: It is argued here that capitalist society is a new form of totalitarianism without having the political power to enforce its will: through advertising and indoctrinational techniques we learn everyday to conform to its demands. How can critical adult education respond to this new condition? In the West we tend to take for granted our freedom and democracy and look to Russia (USSR), to Nazi Germany and China for examples of totalitarianism. In each of these the totalism was political using both overt and covert power. People knew that they had to obey or else they would suffer since the state, by definition, had the right to use force. But we live in a new form of totalitarianism in which the exercise of power to enforce conformity is the use of psychological techniques through mass media moulding individual desire to generate conformity: a form of brainwashing that invades our negative freedom. We are always free to ignore the sources of the information – this is what makes this a new form of totalitarianism».

<sup>4</sup> P. Lévy, *Critique de la critique*, in «Cyberculture», «Rapport au Conseil de l'Europe», in «Internet» 2007, <http://www.archipress.org/levy/cyberculture/critique2.htm>: «Critique du totalitarisme ou crainte de la détotalisation? L'idée selon laquelle le développement du cyberspace menace la civilisation et les valeurs humanistes repose largement sur la confusion entre universalité et totalité. Nous sommes devenus méfiants envers ce qui se présente comme universel parce que, presque toujours, l'universalisme fut porté par des empires conquérants, des prétendants à la domination, que cette domination fut temporelle ou spirituelle. Or le cyberspace, du moins jusqu'à ce jour, est plus accueillant que dominant. Ce n'est pas un instrument de diffusion à partir de centres (comme la presse, la radio et la télévision) mais un dispositif de communication interactive de collectifs humains avec eux-mêmes et de mise en contact de communautés hétérogènes. Ceux qui voient dans le cyberspace un danger de "totalitarisme" font tout simplement une dramatique erreur de diagnostic».

<sup>5</sup> J. C. Brugelmann, *Traveling with Communications Technologies in Space, Time and Everyday Life: an Exploration of their Impact*, in «Internet» 2007, [http://www.firstmonday.org/issues/issue5\\_3/brugelmann/index.html](http://www.firstmonday.org/issues/issue5_3/brugelmann/index.html): «In general, one of the consequences of living in a single global time and

avaliações sócio-econômico e políticas implementadas na primeira metade do século XX. Na verdade estamos, isto è - sempre na perspectiva da já desmistificada 'globalização' (cfr supra, a nossa introdução geral)<sup>1</sup>. Ou há também quem veja na 'totalidade' da experiência humana a perspectiva desviante que todos poderão comunicar-se com as novas tecnologias com todos (quando ao contrário só 3% pode fazê-lo)<sup>2</sup>. Não é esta 'totalidade' que se pretende neste estudo.

Do que foi dito no começo do nosso capítulo, a dúvida sobre totalização se refere à tentativa mesma do 'saber': um bem a explorar economicamente. Mas, também aqui considero na presença de uma interpretação 'administrativa' do 'como' ou das potencialidades do uso instrumental deste saber, não do seu 'quid' (em sentido mais amplo e profundo possível). Também aqui a "learning society" e a 'sociedade do saber' não se libertam da perspectiva instrumental (cfr supra). Isto que a expressão de 'plenitude da experiência' exprime – aqui – é que toda a experiência humana passa através da comunicação em todas as suas formas entre as quais a 'nova comunicação'. A questão permanece aberta, se a 'plenitude da experiência humana' na comunicação se valorizará mais radicalmente graças à nova comunicação com toda a sua densidade ética (com uma 'ecologia' comunicante) ou se a totalidade será integrada num processo redutivo nas 'novas tecnologias', transformando-as num instrumental "racionalístico-operativo", entre centralização decisória e individualismo contagiante<sup>3</sup>. As características desta inclusão geral de toda experiência humana poderia ser, talvez, "universal sem totalidade", ou seja, sem um sentido centralizador articulado, isto

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space, a 'temps unique mondial', undoubtedly is the acceleration of political and economic processes which underlie society. As we know, speeding is all right as long as the road is straight and traffic is low. However, as soon as the road starts turning or traffic increases, it gets dangerous. The 1987 crash on Wall Street clearly illustrates this. That is why it is astonishing that no one ever questions the continual increases in the speed of communication processes. Quite on the contrary, the dominant discourse nowadays calls for more and faster communication technologies. It is perfectly illustrated by the European Union's policy in this respect. We are told that the evolution towards an information society is absolutely essential to improve the way things are. The credo of more, better, and hence faster communication has turned out to be a new ideology. Politicians never stop stressing its necessity, managers consider it to be the perfect solution to almost everything and newspapers are loaded with details on the topic. This new discourse may be explained by the end of the Cold War, when the traditional clash of ideas ceased to exist and capitalism went looking for new founding myths ('idées moteurs') in order to continue mobilising society around its ideological programme. 'Communication' seems to be one of these myths and has even replaced 'progress' as the dominant paradigm of capitalist discourse».

<sup>1</sup> P. Jarvis, *Everyday Learning in an Information Society: Towards a New Totalitarianism*, in «Internet» 2008, <http://www.oise.utoronto.ca/CASAE/cnf2007/Proceedings-2007/AERC%20CASAE%20RT%20Jarvis-2007.pdf> (pp. 733-734): «Part 1: The Nature of Society. In a global world, there is a common sub-structure (economic, technological – including information technology) supported by the military and political might of USA) around which each society has many layers – international, national, regional and local. Organisations and individuals can act in any or all of these levels (Jarvis, 2007). While the core of global society does not have the legal right to use force to enforce its interests but it is supported by the political and military might of USA. Since the core also controls the economic, technology and information technology institutions it has legal access to many of the resources of covert power. But compared to the State, the capitalist sub-structure is potentially weak because it depends on consumers to purchase its products in order to survive: to do this it uses information technology to advertise and so it creates a global capitalist culture. This is the information society: the flip side of which is the learning society – there is so much information to be learned. Webster (2002, p.154) makes the point that informational developments are central to the spread of consumerism necessary for capitalism to develop since they provide the means by which people are persuaded by corporations that it is both desirable and an inevitable way of life. Through a sustained information barrage, attests Schiller, 'all spheres of human existence are subject to the intrusion of commercial values...the most important of which, clearly, is: CONSUME' (Schiller, 1992, p.3 – cited from Webster) (Upper casement in the original). Consumer capitalism is sustained by information technology: television is both a means of selling goods and services but it also bolsters the consumerist life-style; the bulk of the programmes encourage the same life-style; information and communications technology exacerbates the tendency of the market place to replace self and communal organisation; communications technologies allow a greater surveillance of the general public that enables the corporations to address their messages of persuasion to it. Since people are exposed to these techniques of persuasion for much of their waking life, they are inevitably learning from them and constructing their own social realities».

<sup>2</sup> J. Saramago, *THOUGHTS ON THE NEW TECHNOLOGY. On communication*, in «Le monde diplomatique» (english edition) December 1998; etiam in «Internet» 2007, <http://mondediplo.com/1998/12/12saramago>: «People say that the new technology is bringing us close to total communication. The expression is misleading. It suggests that the totality of human beings on the planet are now able to communicate with each other. Unfortunately this is not the case. Barely 3% of the world's population has access to a computer. And even fewer are able to access the Internet. The vast majority of our fellow humans are not even aware of the existence of these technologies - they still don't have the basic benefits of the industrial revolution: drinking water, electricity, schools, hospitals, roads, railways, refrigerators, cars, etc. If nothing is done, the present information revolution will also pass them by».

<sup>3</sup> H. Mowlana, *Global Communication as Cultural Ecology*, in «Internet» 2007, <http://www.humandimension.com/foros/mowlana.doc>: «The crucial question for many societies is whether the emerging global information communication community is a moral and ethical community or just another stage in the unfolding pictures of the transformation in which the West is the center and the rest of the world the periphery. For example, throughout Islamic history, especially in the early centuries, information was not a commodity but a moral and ethical imperative. Is the emerging world order a kind of "network system" in which a new rationalism is likely to impose a policy of radical instrumentation under which social problems will be treated as technical problems and citizens will be replaced by experts? Will the new technologies of information encourage the centralization of decision-making and the fragmentation of society leading to the replacement of forms of community life with an exasperated individualism? Is information society in a position to produce qualitative changes in traditional forms of communication and eventually to transform social structures, and will such new structures require new ethics? Thus, it seems that the discourse and concepts of global order now at the center of world politics both celebrate the arrival of a new communication ecology and hold the key to greater information control».

é, uma totalidade aberta<sup>1</sup>? Será o fechamento totalizador que é superado numa ‘ecologia’ do ciberespaço<sup>2</sup>. A rede da ‘web’ nem ofereceria uma perspectiva sua: todas as “páginas” são sobre o mesmo plano de inserção e ao mesmo tempo cada uma se diferencia da outra<sup>3</sup>. Isto “tudo” é como um segundo “dilúvio”, o dilúvio informativo (Ray Ascott) que alagará todos os âmbitos sem a “vazante das águas” (*ibidem*). Estamos, talvez, diante de uma suma ingenuidade? E poderá esta “universalidade” estar realmente ausente do condicionamento totalizador, se há ainda algumas “dominações” como aquela que detém a chave do DNS sobre a rede planetária e que centraliza o Departamento do Comércio dos Estados Unidos<sup>4</sup>. A inicial dominação da língua inglesa aparece

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<sup>1</sup> Pramod K. Nayar, *Review: Cyberculture of Pierre Lévy*, in «RCCS Ressource center for cyberculture Studies», in «Internet» 2007, <http://rccs.usfca.edu/bookinfo.asp?ReviewID=255&BookID=215>: «Reading the "essence" of cyberspace, Lévy argues that cyberspace presents "the universal without totality" (98). Cyberspace is empty and yet full. It accepts all content, regardless of the kind/quality of content. It is this that Lévy identifies as cyberspace's most significant feature -- a universality "without any centralized meaning, this system of disorder and labyrinthine transparency" (91-2). Lévy argues that when writing developed, it wrenched messages out of context, separated them from the point of origin. While on the one hand writing universalized thought, popularized it, it ensured that meaning remained unchanged by interpretation or translation (this, especially in religious texts). The significance of the message must be the same at all places and at all times. This is the universal *with* totality. In sharp contrast, cyberspace "dissolves the pragmatics of communication" (98). Any text can become a fragment, interconnected with other texts. Global interconnection ensures a form of the universal, but resists any semantic closure of interpretation. Cyberspace unites us through contact and general interaction. It enables communities to communicate among and with themselves. As Lévy puts it, this universal without totality "engenders a culture of the universal not because it is in fact everywhere but because the form or idea of cyberspace implicates all human beings by right" (100)».

<sup>2</sup> P. Lévy, *L'universel sans totalité*, in «Cyberculture», «Rapport au Conseil de l'Europe», in «Internet» 2007, <http://www.archipress.org/levy/cyberculture/universel.htm>: «Une nouvelle écologie des médias s'organise autour de l'extension du cyberspace. Nous pouvons maintenant énoncer son paradoxe central : *plus c'est universel (étendu, interconnecté, interactif), moins c'est totalisable*. Chaque connexion supplémentaire ajoute encore de l'hétérogène, de nouvelles sources d'information, de nouvelles lignes de fuites, si bien que le sens global est de moins en moins lisible, de plus en plus difficile à circonscrire, à clore, à maîtriser. Cet universel donne accès à une jouissance du mondial, à l'intelligence collective en acte de l'espèce. Il nous fait participer plus intensément à l'humanité vivante, mais sans que cela soit contradictoire, au contraire, avec la multiplication des singularités et la montée du désordre».

<sup>3</sup> P. Lévy, *Le nouveau rapport au savoir*, in «Cyberculture», «Rapport au Conseil de l'Europe», in «Internet» 2007, <http://www.archipress.org/levy/cyberculture/savoir.htm>: «Sur le Web, tout est sur le même plan. Et cependant tout est différencié. Il n'y a pas de hiérarchie absolue, mais chaque site est un agent de sélection, d'aiguillage ou de hiérarchisation partielle. Loin d'être une masse amorphe, le Web articule une multitude ouverte de points de vue, mais cette articulation s'opère transversalement, en rhizome, sans point de vue de Dieu, sans unification surplombante. Que cet état de fait engendre de la confusion, chacun en convient. De nouveaux instruments d'indexation et de recherche doivent être inventés, comme en témoigne la richesse des travaux actuels sur la cartographie dynamique des espaces de données, les "agents" intelligents ou le filtrage coopératif des informations. Il est néanmoins fort probable que, quels que soient les progrès à venir des techniques de navigation, le cyberspace gardera toujours son caractère foisonnant, ouvert, radicalement hétérogène et non totalisable».

<sup>4</sup> P. Marks, *Calls to end US domination of the internet*, in «New Scientist», in «Internet» 2008, <http://www.newscientist.com/article.ns?id=dn7757>: «Today the internet has 13 vast computers dotted around the world that translate text-based email and web addresses into numerical internet protocol (IP) node addresses that computers understand. In effect a massive look-up table, the 13 computers are collectively known as the Domain Name System (DNS). But the DNS master computer, called the master root server, is based in the US and is ultimately controlled by the Department of Commerce. Because the data it contains is propagated to all the other DNS servers around the world, access to the master root server file is a political hot potato. Currently, only the US can make changes to that master file. And that has some WGIG members very worried indeed. "It's about who has ultimate authority," says Kummer. "In theory, the US could decide to delete a country from the master root server. Some people expect this to happen one day, even though the US has never abused its position in that way." Unilateral US action is unlikely, however. The DNS system is managed on behalf of the Department of Commerce by the Internet Corporation for Assigned Names and Numbers (ICANN), a not-for-profit company. "Our job is to make sure internet addressing happens stably and securely," says Theresa Swinehart, ICANN's general manager for global partnerships. And it does so, she says, in conjunction with its government advisory committee (GAC), which includes members from 100 countries to ensure diversity of opinion. Even Kummer admits that ICANN does a good job on achieving international consensus, at least regarding changes to the DNS. "ICANN scores quite highly on involving all stakeholders. Anyone can go to a meeting, take the microphone and give a view," he says. The problem? It's an ad hoc process. And with the internet now a critical global resource, some governments, particularly in developing countries such as China, India and Brazil, want a forum where vast swathes of internet policy - from cybercrime to spam to privacy protection - can be both discussed and acted on. Only then, they say, can vital non-DNS issues such as the high cost of net connections to many developing countries be made fairer. Right now, the WGIG report notes, internet service providers based in countries that are remote from the internet backbone links - the large "fat pipes" connecting continents - must pay the full cost of connecting to these networks. This can be prohibitively expensive for developing nations and there is no "appropriate and effective global internet governance mechanism to resolve it". The WGIG put forward a number of options for change, all of which include enhancing the roles of ICANN and the GAC or the formation of a new all-embracing internet policy body that would be in charge of ICANN instead of the US. The WGIG's proposals will now go to the vote at the International Telecommunication Union's World Summit on the Information Society in Tunisia this November. Whatever the WGIG decides, it will have a tough time changing the US government's opinion. Only last month, US assistant secretary of commerce Michael Gallagher reasserted America's claim to the heart of the net. "The US is committed to taking no action that would have the potential to adversely impact the effective and efficient operation of the DNS and will therefore maintain its historic role in authorising changes or modifications to the authoritative root zone file." Battle, it seems, is about to begin».

também como resíduo de passados totalitários, mais a multiplicação da conectividade poderia dar novas ‘chances’ às línguas não dominantes <sup>1</sup>.

As duas posições apenas acenadas são dependentes da universalidade ou da dinâmica “globalizante” do saber como tal ou da incógnita na motivação individual ou não das pessoas. Existe porém uma pista mais adiante destas duas chaves: o fato, isto è, que a própria rede faça surgir uma “vontade” e vontade de “multiconectividade” na motivação de cada um que se empenha num processo de “self-knowledge” de aprendizagem contínua pelo interesse que suscita com a ajuda dos ICT <sup>2</sup>. Ainda nesta perspectiva, a difusa “consciência comum” na rede parece implicitamente presente como desafio virtual que está emergindo além de posições muito expectantes.

*A nova comunicação, não só dos “novos instrumentos”, mais plataforma “multimediativa” de convergência*

Uma primeira aproximação às novas comunicações partindo do nascimento da Internet, poderia ser aquela segundo a qual estamos simplesmente em presença de um meio novo, técnica nova ao lado de muitos outros <sup>3</sup>. Há também outras opiniões entre as quais a idéia de que a Internet faz parte da “informação”, de algum modo ampliado e na forma de uma rede global. Ainda mais

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<sup>1</sup> J. Kessler, Multilingual Access and Universal Language, in « 10.2007a FYI France Essay: February 28, 2007 », in « *Bulletin des bibliothèques de France* t.52, n.3, 2007, pp.5-15. ISSN: 0006-2006 », etiam in « Internet » 2008, <http://www.fyifrance.com/f102007a.htm>: « The Internet, then, is the latest development in a travel and communications shift reaching back at least a century. David Crystal wonders whether minority languages will enjoy a rebirth in this era because of the Internet; but all of the new transportation and communication may be encouraging such a trend, in a world which is globalizing. A world thus growing smaller could favor its largest players: its most powerful nations, its largest corporations, its most omnipresent languages. But an interconnected world offers new opportunities to small players too: new publics and publishing opportunities for minority languages, new global markets for small entrepreneurs more nimble than their overgrown and less flexible 1950s competitors <sup>1</sup>, new transnational political structures for NGO's <sup>2</sup>, new access to the tables of power for small nations, new platforms for "the mouse that roared" <sup>3</sup>. The new train to Lhasa runs in both directions ».

(1) "GM, Ford sales drop in January; Toyota's rise", in *Freep.com / Detroit Free Press* (February 1, 2007) <http://www.freep.com/apps/pbcs.dll/article?AID=/20070201/BUSINESS01/70201052/1001/BUSINESS05> (Updated May 30, 2007. URL now outdated, but see also many recent business news stories on the financial travails of GM and Ford, and the replacement now of the latter in world standings by Toyota: merely a matter of time, too, and not much time, before Toyota rises from #2 to #1.) / (2) [http://en.wikipedia.org/wiki/Non-governmental\\_organization](http://en.wikipedia.org/wiki/Non-governmental_organization); [http://fr.wikipedia.org/wiki/Organisation\\_non\\_gouvernementale](http://fr.wikipedia.org/wiki/Organisation_non_gouvernementale) / (3) [http://en.wikipedia.org/wiki/The\\_Mouse\\_That\\_Roared](http://en.wikipedia.org/wiki/The_Mouse_That_Roared).)

<sup>2</sup> Ram Takawale, *School Science Education – Universalisation with Quality*, in « Okeanos sharing thoughts. A blog by Meena Kharatmal », in « Internet » 2008, <http://portal.gnowledge.org/okeanos>: « As we know, information and knowledge society is emerging, and therefore ICT can play an important role in solving the problems of making quality of science education universal. In today's world, we are connected with mobile phone, TV, internet, but not all the schools are connected, in this situation how can we create a connected world. ICT is using different processes such as digitization, personalization, customization and can we use these new processes to universalize science education. According to Prof. Takwale, we cannot use the conventional processes to solve the problems of universalization, and we need to use ICT to solve such problems. The keypoint is that ICT enables for mass collaboration wherein few people come together for a common cause and create resources for everyone for example wikipedia. He showed interest in creating learning groups or learning communities for the open educational program. Well, I would like to add here that the [SELF Project](#) is also an example of such open educational resources. The [SELF Platform](#) is being used to create courses and learning materials. It aims to be a community-driven platform for producing and distributing educational materials ».

<sup>3</sup> Cfr le esitazioni nei Messaggi papali, i. e. tra ‘new forums’ e ‘new means’: John Paul II, *Message Of The Holy Father For The 36th World Communications Day "Internet: A New Forum For Proclaiming The Gospel*, in « Internet » 2002, [http://www.vatican.va/holy\\_father/john\\_paul\\_ii/messages/communications/documents/hf\\_jp-ii\\_mes\\_20020122\\_world-communications-day\\_en.html](http://www.vatican.va/holy_father/john_paul_ii/messages/communications/documents/hf_jp-ii_mes_20020122_world-communications-day_en.html): « 2. The Internet is certainly a new “forum” understood in the ancient Roman sense of that public space where politics and business were transacted, where religious duties were fulfilled where much of the social life of the city took place, and where the best and the worst of human nature was on display... For the Church the new world of cyberspace is a summons to the great adventure of using its potential to proclaim the Gospel message. This challenge is at the heart of what it means at the beginning of the millennium to follow the Lord's command to “put out into the deep”: *Duc in altum!* (Lk 5:4). 3. The Church approaches this new medium with realism and confidence. Like other communications media, it is a means, not an end in itself... »; PONTIFICAL COUNCIL FOR SOCIAL COMMUNICATIONS, *Ethics in Internet*, in « Internet » 2002, [http://www.vatican.va/roman\\_curia/pontifical\\_councils/pccs/documents/rc\\_pc\\_pccs\\_doc\\_20020228\\_ethics-internet\\_en.html](http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_20020228_ethics-internet_en.html): « 1. ...The new media are powerful tools for education and cultural enrichment, for commercial activity and political participation, for intercultural dialogue and understanding; and, as we point out in the document that accompanies this one, (1) they also can serve the cause of religion. Yet this coin has another side. Media of communication that can be used for the good of persons and communities can be used to exploit, manipulate, dominate, and corrupt. 2. The Internet is the latest and in many respects most powerful in a line of media—telegraph, telephone, radio, television—that for many people have progressively eliminated time and space as obstacles to communication during the last century and a half. It has enormous consequences for individuals, nations, and the world ».

(1) PONTIFICAL COUNCIL FOR SOCIAL COMMUNICATIONS, *The Church and Internet*, Vatican City 2002.) PONTIFICAL COUNCIL FOR SOCIAL COMMUNICATIONS, *The Church And Internet*, [http://www.vatican.va/roman\\_curia/pontifical\\_councils/pccs/documents/rc\\_pc\\_pccs\\_doc\\_20020228\\_ethics-internet\\_en.html](http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_20020228_ethics-internet_en.html): « 1. The Church's interest in the Internet is a particular expression of her longstanding interest in the media of social communication. Seeing the media as an outcome of the historical scientific process by which humankind “advances further and further in the discovery of the resources and values contained in the whole of creation”,<sup>1</sup> the Church often has declared her conviction that they are, in the words of the Second Vatican Council, “marvellous technical inventions”<sup>2</sup> that already do much to meet human needs and may yet do even more ».

(1) John Paul II, *Encyclical Letter “Laborem Exercens”*, n. 25; cf. Vatican Council II, *Pastoral Constitution on the Church in the Modern World “Gaudium et Spes”*, n. 34. / (2) VATICAN COUNCIL II, *Decree on the Means of Social Communication “Inter Mirifica”*, n. 1.)

aproximativo, seria dizer que a Internet é um “incidente” da “guerra fria”<sup>1</sup>... A rede planetária ou ‘world wide web’ não foi inventada por um super-estado (americano) ou por uma super-empresa (Microsoft), mais por um pequeno grupo de usuários e dos próprios internautas<sup>2</sup>. Percebe-se que Internet não é só mais um meio de comunicação avançado<sup>3</sup> mas um palco geral, onde tantos “meios de comunicação” se articulam e redistribuem a experiência humana: Internet seria o resultado de uma “convergência” mais ampla das várias tecnologias “multimédias” sobre a base de uma “não especificidade” (cfr infra)<sup>4</sup>. A dinâmica convergente da rede se radica nas (novas) tecnologias de informação e de comunicação e particularmente na capacidade comum de digitalização operativa nos vários setores precedentemente configurados de acordo com as suas “especificidades”<sup>5</sup>. Dir-se-á que esta convergência entre os vários ramos da “multimédia” é o que se entende por ICT<sup>6</sup>. Este parâmetro tecnológico comum constituirá o elemento da ‘globalização’

<sup>1</sup> Cfr PONTIFICAL COUNCIL FOR SOCIAL COMMUNICATIONS, *Ethics in Internet*, in «Internet» 2002, [http://www.vatican.va/roman\\_curia/pontifical\\_councils/pccs/documents/rc\\_pc\\_pccs\\_doc\\_20020228\\_ethics-internet\\_en.html](http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_20020228_ethics-internet_en.html): «8. The technological configuration underlying the Internet has a considerable bearing on its ethical aspects: People have tended to use it according to the way it was designed, and to design it to suit that kind of use. This ‘new’ system in fact dates back to the cold war years of the 1960s, when it was intended to foil nuclear attack by creating a decentralized network of computers holding vital data. Decentralization was the key to the scheme, since in this way, so it was reasoned, the loss of one or even many computers would not mean the loss of the data»; etiam, some traces of this interpretation in: John Paul II, *Message Of The Holy Father for The 36th World Communications Day "Internet: A New Forum For Proclaiming The Gospel*, in «Internet» 2002, [http://www.vatican.va/holy\\_father/john\\_paul\\_ii/messages/communications/documents/hf\\_jp-ii\\_mes\\_20020122\\_world-communications-ay\\_en.html](http://www.vatican.va/holy_father/john_paul_ii/messages/communications/documents/hf_jp-ii_mes_20020122_world-communications-ay_en.html): «5. Finally, in these troubled times, let me ask: how can we ensure that this wondrous instrument first conceived in the context of military operations can now serve the cause of peace?»; cfr a better explanation in, E. Krol - E. Hoffman, *FYI on "What is the Internet?*, in «Internet» 2002, <http://www.cis.ohio-state.edu/cgi-bin/rfc/rfc1462.html>: «The Internet was born about 20 years ago, trying to connect together a U.S. Defense Department network called the ARPAnet and various other radio and satellite networks. The ARPAnet was an experimental network designed to support military research--in particular, research about how to build networks that could withstand partial outages (like bomb attacks) and still function. (Think about this when I describe how the network works; it may give you some insight into the design of the Internet.) In the ARPAnet model, communication always occurs between a source and a destination computer. The network itself is assumed to be unreliable; any portion of the network could disappear at any moment (pick your favorite catastrophe--these days backhoes cutting cables are more of a threat than bombs). It was designed to require the minimum of information from the computer clients. To send a message on the network, a computer only had to put its data in an envelope, called an Internet Protocol (IP) packet, and "address" the packets correctly. The communicating computers--not the network itself--were also given the responsibility to ensure that the communication was accomplished. The philosophy was that every computer on the network could talk, as a peer, with any other computer»;

<sup>2</sup> P. Lévy, *Critique de la domination*, in «Cyberculture», «Rapport au Conseil de l'Europe», in «Internet» 2007, <http://www.archipress.org/levy/cyberculture/critique.htm>: «Entre 1990 et 1996, la principale révolution dans la communication numérique planétaire est venue d'une petite équipe de chercheurs du CERN, à Genève, qui a mis au point le *World Wide Web*. C'est le mouvement social de la cyberculture qui a fait du Web le succès que l'on sait, en propageant un dispositif de communication et de représentation qui correspondait à ses manières de faire et à ses idéaux. Les critiques" regardent la télévision, qui ne sait montrer que des têtes d'affiche spectaculaires, alors que les événements importants se passent dans des processus d'intelligence collective largement distribués, invisibles, qui échappent nécessairement aux médias classiques. Le *World Wide Web* n'a été ni inventé, ni diffusé, ni alimenté par des macro-acteurs médiatiques comme Microsoft, IBM, ATT ou l'armée américaine mais par les cybernautes eux-mêmes».

<sup>3</sup> PONTIFICAL COUNCIL FOR SOCIAL COMMUNICATIONS, *Etica in Internet*, in «Internet» 2002, [http://www.vatican.va/roman\\_curia/pontifical\\_councils/pccs/documents/rc\\_pc\\_pccs\\_doc\\_20020228\\_ethics-internet\\_it.html](http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_20020228_ethics-internet_it.html): «2. Fra i mezzi di comunicazione, quali il telegrafo, il telefono, la radio, la televisione, che durante lo scorso secolo e mezzo hanno progressivamente eliminato il tempo e lo spazio come ostacoli alla comunicazione fra un gran numero di persone, Internet è il più recente e per molti aspetti il più potente. Il suo impatto sugli individui, sulle nazioni, e sulla comunità delle nazioni è già enorme ed aumenta di giorno in giorno».

<sup>4</sup> H. Pigeat, *Ethique des médias et révolution de l'Internet*, Rome 2001 (pro manuscripto – Centre culturel Saint-Louis de France), p. 7: «Les imprimeries de presse et les centres émetteurs de radio et de télévision avaient leur spécificité. Nécessaires pour la production de ces médias, ils ne pouvaient servir à rien d'autre. L'Internet est au contraire le résultat de ce que les spécialistes appellent La «convergence». La télévision, les télécommunications et, pour une part, la presse utilisent désormais des outils largement communs et de moins en moins spécifiques. La convergence technique se prolonge logiquement en convergence juridique puis économique et financière et c'est évidemment sur les caractères les plus puissants que s'effectue l'alignement. L'approche artisanale longtemps traditionnelle des entreprises de presse s'efface progressivement. Les groupes de communication sont désormais organisés sur le mode industriel avec une recherche systématique et légitime de rationalisations financières. Telle est la logique de l'industrie. Ces activités de communication étaient par nature nationales, voire locales, s'exercent désormais souvent dans des groupes internationaux de taille considérable dont le financement par la bourse introduit des contraintes d'amélioration constante de la productivité. Cette mutation profonde a des avantages économiques évidents, mais conduit aussi à des renversements de finalités. L'entreprise de médias est désormais conduite à donner moins de priorité à l'information et plus aux résultats commerciaux et financiers».

<sup>5</sup> A. Gillwald, *National Convergence Policy in a Globalised World. Preparing South Africa for Next Generation Networks, Services and Regulation*. LINK Centre Policy Research Paper No 4, in «research.ICT.africa.net», in «Internet» 2008, <http://www.researchictafrica.net/modules.php?op=modload&name=News&file=article&sid=209>: «Governments across the world are grappling with appropriate policies to optimise the benefits associated with converging technologies and markets and to ameliorate potentially negative outcomes. Convergence has emerged as a global phenomenon as a result of digitisation which has allowed traditionally distinct services to be offered across interchangeable platforms. These technological trends have been accelerated by the liberalisation of markets allowing for the development of global digital communication networks offering multiple services across national borders. While converging technologies have changed the face of global communications and will continue to do so in future, the take up of converged technologies and services has been much slower than suggested by the hype even five years ago. The reasons for this are multifarious. At the global level the burst of the dot.com bubble, compounded by the global recession has slowed down investments both in the research and development and investment in infrastructures and services but the way convergence will play out at the national level will differ according to the market, governance and cultural arrangements of individual countries».

<sup>6</sup> INTERNET RIGHTS GLOSSARY, *Convergence*, in «genderIT.org», in «Internet» 2008, <http://www.genderit.org/en/index.shtml?apc=j--e-1>: «Convergence enables computers, telecommunications devices and networks to work together locally, regionally and globally to share and exchange content or information. These technologies, taken together, are what we call ICTs. Refers to two different trends: - convergence between the broadcasting and telecommunications sectors. advances in technology make it possible to use different media (cable networks, terrestrial and satellite radio relay systems, computer terminals and television sets) to carry and process all kinds of information and services, including sound, images and

(mais uma vez mais comunicativo que político-econômico – cfr supra). Dir-se-á que a nova comunicação opera “sincronicamente” ao combinar de modo multidimensional as várias potencialidades das trocas a todos os níveis, de modo “revolucionário” para o melhor e o pior<sup>1</sup>. Se então, Internet envolve todas as dimensões da experiência humana e se a globalização deve tornar-se acessível a todos os benefícios da nova era, pode-se limitar a apresentar o fenômeno como principalmente econômico? Lá onde várias etapas de afirmação comunicativa, da editoria à computadorização, se apresentam facilmente como um tipo de “meio”, ou seja, de suporte mediático, da virtualidade e depois de Internet inclui todos e não se identifica singularmente com nenhuma “tool” (ferramenta) em particular ou com as propriedades de um “instrumento” mediático específico. Lá onde todo ‘instrumento ou meio’ de massa tradicional opera segundo sua especificidade, Internet seria o resultado de uma “convergência”, ou seja, sob a base de uma “não especificidade”<sup>2</sup>. A “não especificidade” da rede aparece desta impostação operativa eficaz e objetiva do “instrumento” e introduz a plataforma nas dinâmicas de ‘conectividade’ aberta<sup>3</sup>. Internet constitui uma conectividade entre a rede e a “World Wide Web” cria uma conectividade entre documentos<sup>4</sup>. A convergência anunciada na nova comunicação, com Internet, será a da rede radiofônica, com um necessário melhoramento de qualidade e modalidade de difusão<sup>5</sup>. Quanto à

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data. this type of convergence is due to a revolution in technology (digitisation). it has economic and regulatory implications. - fixed/mobile convergence. increasingly similar technologies are used and services provided by fixed telephone and mobile telephone systems. this type of convergence opens up prospects for operators to propose the same services to all users, regardless of the technology or networks they use. Convergence is the principle that the various public media, such as radio, TV, the print media, CD players/stereos, video recorders, telephones and the Internet, are all coming together to form one information channel. This channel will seamlessly all the media, enabling connections between to be easily followed. The device that will present all these media to the user, which will effectively be a highly versatile multimedia computer, will be generically called an 'information appliance'. Convergence is significant because of the potential power it gives to those who control the information channels. But it will also redefine how civil society addresses itself through the media».

<sup>1</sup> C. Cupitt, *Changing Communication Technology: Evolution or Revolution?*, in «Internet» 2007, <http://www.geocities.com/Area51/Hollow/2405/information.html>: «Both the adulatory and alarmist theorists generally see these new technologies as a potential revolution - on the scale of the print or industrial revolutions - rather than as just another mechanism effecting evolution of language. These theorists predict an amalgamation of existing, and yet to be invented, communication technologies into one multi-purpose, multi-dimensional, multi-media machine, with the potential for instantaneous access to all the information stored on any online computer anywhere, accessible in any order the user desires. And every home - well almost every home - will have one. Also evident in the development of the twentieth-century modes of information is a ever-increasing trend toward synchronous combinatory media. ... The design of synchronous combinatory exchange is necessarily unlike that of written exchange. The organising principle of combinatory exchange in its simplest form is synchronicity rather than sequence (1)».

((1) Kathleen Burnett, "Toward a Theory of Hypertextual Design," *In Theory: Reading Theory Reader* (Nedlands, Western Australia: English Department, University of Western Australia, 1996), p. 374 (paragraph 11).)

<sup>2</sup> H. Pigeat, *Ethique des médias et révolution de l'Internet*, Rome 2001 (pro manuscripto – Centre culturel Saint-Louis de France), p. 7 : «Les imprimeries de presse et les centres émetteurs de radio et de télévision avaient leur spécificité. Nécessaires pour la production de ces médias, ils ne pouvaient servir à rien d'autre. L'Internet est au contraire le résultat de ce que les spécialistes appellent La «convergence». La télévision, les télécommunications et, pour une part, la presse utilisent désormais des outils largement communs et de moins en moins spécifiques. La convergence technique se prolonge logiquement en convergence juridique puis économique et financière et c'est évidemment sur les caractères les plus puissants que s'effectue l'alignement. L'approche artisanale longtemps traditionnelle des entreprises de presse s'efface progressivement. Les groupes de communication sont désormais organisés sur le mode industriel avec une recherche systématique et légitime de rationalisations financières. Telle est la logique de l'industrie. Ces activités de communication étaient par nature nationales, voire locales, s'exercent désormais souvent dans des groupes internationaux de taille considérable dont le financement par la bourse introduit des contraintes d'amélioration constante de la productivité. Cette mutation profonde a des avantages économiques évidents, mais conduit aussi à des renversements de finalités. L'entreprise de médias est désormais conduite à donner moins de priorité à l'information et plus aux résultats commerciaux et financiers».

<sup>3</sup> [M/CYCLOPEDIA OF NEW MEDIA](http://www.mediawiki.org/wiki/Convergence), *Convergence - The Internet*, in «Internet» 2008, [http://wiki.media-culture.org.au/index.php/Convergence\\_and\\_the\\_Internet](http://wiki.media-culture.org.au/index.php/Convergence_and_the_Internet): «The internet is **defined** as the publicly available worldwide system of interconnected computer networks that transmit data by packet switching over the Internet Protocol (IP). It is made up of thousands of other, smaller business, academic, and government networks that provide various information and services, such as by electronic mail, online chat, and on the graphical, interlinked World Wide Web. Because it is the largest, most extensive internet (with a small i) in the world, it is simply called the Internet (with a capital I). Convergence is **defined** as: The process of coming together or the state of having come together toward a common point. Thus, taken together, Convergence and the Internet means the incorporation of the wide reaching and linking aspects of the internet with other mediums, in order to lead the technology toward a common point. This convergence has led to the development of new forms of media technologies».

<sup>4</sup> WIKIPEDIA FREE ENCYCLOPEDIA, *Internet*, in «Internet» 2008, <http://en.wikipedia.org/wiki/Internet>: «Terminology. The Internet and the **World Wide Web** are not synonymous. The Internet is a collection of interconnected **computer networks**, linked by **copper** wires, **fiber-optic** cables, **wireless** connections, etc. In contrast, the Web is a collection of interconnected documents and other **resources**, linked by **hyperlinks** and **URLs**. The World Wide Web is one of the services accessible via the Internet, along with various others including **e-mail**, **file sharing**, **online gaming** and others described below».

<sup>5</sup> B. Metcalfe, *The Next Big Thing in the world of convergence: The Broadcast Internet*, in «Infoworld», in «Internet» 2008, <http://www.infoworld.com/articles/op/xml/00/06/05/000605opmetcalfe.html>: «Broadcast Internet. Streaming media companies were a sign. Caching and content distribution companies were a sign. Napster and various Internet radios are a sign. And soon it will be obvious: The Internet is attracting broadcast content, especially radio and television content. Trouble is, the Internet can't broadcast streaming content. Multicasting and caching fail to deliver with reasonable quality or scale. But now, The Next Big Thing, which is the convergence of broadcast networks with the Internet, will better broadcast streaming content. New technologies, standards, and companies are aiming to carry the Internet over broadcast radio, television, cable television, and satellite. Soon, caching content servers will be fed not by the Internet's point-to-point backbones, but by broadcast backbones derived from today's broadcast networks. Think of "broadcast" and "narrowcast" at opposite ends of a spectrum -- as matters of degree. The Internet makes it possible to have millions of personalized and interactive broadcast channels. Much of their content is addressed to individual users. Much more is for many users and is best broadcast. So, The Next Big Thing is The Broadcast Internet. For a report card on convergence, see [www.vortex.net](http://www.vortex.net)».

televisão, a convergência em rede se esboçou mas não é aquela que se esperava, seja quanto à qualidade como a modalidade <sup>1</sup>.

### *A nova comunicação, modalidade futura exigida para a sobrevivência humana*

Diversos observadores apontam na competição dos ‘blocos’ antes de 1990 um elemento determinante da pesquisa que levará à Internet <sup>2</sup>. Mas não precisa trascar o aspecto de mudança das consciências científicas na base do projeto Internet <sup>3</sup>. O dado significativo que se impõe nesta pesquisa é “descentralizar para sobreviver”, descartando um líder único que possa ser atingido e a conseqüente paralisação de toda a base bélica. Inútil acrescentar o que isto poderia dizer indiretamente... Mas, ligar excessivamente Internet à esta tática bélica, seria como considerar que o atual ‘personal computer’ dependa da “pascaline” ou a calculadora mecânica (inventada por Pascal e Leibniz), ou identificar o telefone com a sua “pré-história” de aparelho que transporta notas musicais através de teclas de madeira <sup>4</sup>. Esta “pré-história da Internet” poderia constituir uma lição: sobre a razão – isto é- da sua criação. Se inventou um sistema de rede descentrada porque pareceu ser a única via de sobrevivência em caso de extrema emergência (bélica, de extermínio total ou “global”). A rede aparece como uma solução de sobrevivência da humanidade, justamente nas sua característica não hierarquizada. A idéia se desenvolve para realizar uma interconexão de redes independentes que se chamará “arquitetura aberta”<sup>5</sup>. O significado de “aberto” exprime o

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<sup>1</sup> J. Ozer, *Internet / TV convergence is here, and it's not what we expected*, (Fri, Oct 20 2006), in «IVT News», in «Internet» 2008, <http://www.ivt.com.au/news/id/82>: «I remember way back in the early days of the public Internet there was a lot of discussion about predicted media convergence: we all thought that as bandwidth increased we would see television distribution move from "through the air" to "down the wire", coming in via our Internet connection to a special TV that could download shows on demand and allow us to interact with live shows. Basically it would be like normal TV but it could come from anywhere in the world rather than just your local TV transmission towers. Of course predicting the future is very hard: we all tend to look ahead in terms of incrementally improved versions of things we already have. Imagining totally new ways of living is remarkably difficult, so I doubt that many people sitting around in 1996 and talking about video distribution via the Internet would have accurately predicted how things have turned out. Sure, Internet / TV convergence has now arrived, but it's not what we expected. For one thing, the prediction of televisions becoming smarter and Internet-enabled hasn't really come about. For all the bells and whistles and huge screen options a modern TV is still (mostly) the same as the unimaginative devices available in 1996».

<sup>2</sup> D. Kristula, *The History of the Internet, (March 1997 / Update: August 2001)*, in «Internet» 2004, <http://www.davesite.com/webstation/net-history.shtml>: «1957. The USSR launches Sputnik, the first artificial earth satellite. In response, the United States forms the Advanced Research Projects Agency (ARPA) within the Department of Defense (DoD) to establish US lead in science and technology applicable to the military. 1962. RAND Paul Baran, of the RAND Corporation (a government agency), was commissioned by the U.S. Air Force to do a study on how it could maintain its command and control over its missiles and bombers, after a nuclear attack. This was to be a military research network that could survive a nuclear strike, decentralized so that if any locations (cities) in the U.S. were attacked, the military could still have control of nuclear arms for a counter-attack. Baran's finished document described several ways to accomplish this. His final proposal was a packet switched network. "Packet switching is the breaking down of data into datagrams or packets that are labeled to indicate the origin and the destination of the information and the forwarding of these packets from one computer to another computer until the information arrives at its final destination computer. This was crucial to the realization of a computer network. If packets are lost at any given point, the message can be resent by the originator." 1968. ARPA awarded the ARPANET contract to BBN. BBN had selected a Honeywell minicomputer as the base on which they would build the switch. The physical network was constructed in 1969, linking four nodes: University of California at Los Angeles, SRI (in Stanford), University of California at Santa Barbara, and University of Utah. The network was wired together via 50 Kbps circuits. 1972. The first e-mail program was created by Ray Tomlinson of BBN. The Advanced Research Projects Agency (ARPA) was renamed. The Defense Advanced Research Projects Agency (or DARPA). ARPANET was currently using the Network Control Protocol or NCP to transfer data. This allowed communications between hosts running on the same network. 1973. Development began on the protocol later to be called TCP/IP, it was developed by a group headed by Vinton Cerf from Stanford and Bob Kahn from DARPA. This new protocol was to allow diverse computer networks to interconnect and communicate with each other».

<sup>3</sup> W. Howe, *A Brief History of the Internet, (Last updated 21 April 2002)*. *An anecdotal history of the people and communities that brought about the Internet and the Web*, in «Internet» 2004, <http://www.walthowe.com/navnet/history.html>: «The Internet was the result of some visionary thinking by people in the early 1960s who saw great potential value in allowing computers to share information on research and development in scientific and military fields. J.C.R. Licklider of MIT, first proposed a global network of computers in 1962, and moved over to the Defense Advanced Research Projects Agency (DARPA) in late 1962 to head the work to develop it. Leonard Kleinrock of MIT and later UCLA developed the theory of packet switching, which was to form the basis of Internet connections. Lawrence Roberts of MIT connected a Massachusetts computer with a California computer in 1965 over dial-up telephone lines. It showed the feasibility of wide area networking, but also showed that the telephone line's circuit switching was inadequate. Kleinrock's packet switching theory was confirmed. Roberts moved over to DARPA in 1966 and developed his plan for ARPANET. These visionaries and many more left unnamed here are the real founders of the Internet».

<sup>4</sup> M. McLuhan, *Understanding Media*, London 1964, p. 287: «The word “telephone” came into existence in 1840, before Alexander Graham Bell was born. It was used to describe a device made to convey musical notes through wooden rods. By the 1870s, inventors in many places were trying to achieve the electrical transmission of speech, and the American Patent Office received Elisha Gray's design for a telephone on the same day as Bell's, but an hour or two later. The legal profession benefited enormously from this coincidence. But Bell got the fame, and his rivals became footnotes. The telephone presumed to offer services to the public in 1877, paralleling wire telegraphy».

<sup>5</sup> B. M. Leiner, V. G. Cerf, D. D. Clark, R. E. Kahn, L. Kleinrock, D. C. Lynch, J. Postel, L. G. Roberts, St. Wolff, *A Brief History of the Internet*, in «Internet» 2004, <http://www.isoc.org/internet/history/brief.shtml>: «The Initial Internetting Concepts. The original ARPANET grew into the Internet. Internet was based on the idea that there would be multiple independent networks of rather arbitrary design, beginning with the ARPANET as the pioneering packet switching network, but soon to include packet satellite networks, ground-based packet radio networks and other networks. The Internet as we now know it embodies a key underlying technical idea, namely that of open architecture networking. In this approach, the choice of any individual network technology was not dictated by a particular network architecture but rather could be selected freely by a provider and made to

acesso comum (a arquitetura “fechada” seria o acesso reservado somente aos adeptos especificados)<sup>1</sup>. Da convergência entre programas e sistemas de compatibilidade de multimídia, se fornece a capacidade igual no desenvolvimento participativo em nível local e regional em direção à uma necessária descentralização e responsabilidade participativa<sup>2</sup>. Se pensa em uma gestão de convivência em base de “documentos de arquitetura aberta”, como já mencionado no âmbito da justiça: uma trama “inteligente” de base articulada em termos de estrutura e de comportamento, partindo da funcionalidade própria e serviço externo que propõem componentes ulteriores.

*A nova comunicação inverte a dinâmica comunicativa: não mais “copiar” na mídia o que sucede na realidade ou reproduzir o real a distância mais aplicar “realmente” o virtual*

Como “rede” de intercâmbio em todos os níveis e dimensões da experiência humana, se tenta compreender qual é a sua marca característica no jogo comunicativo. A discussão está aberta e não é sempre fácil individualizar o que distingue propriamente a Internet dos passos precedentes da tentativa comunicativa. De modo muito genérico, se observa que a “rede” não imita a modalidade do “mundo real” incrementando a sua potencialidade mais cria uma teia de conexão própria<sup>3</sup>. Por outro lado, onde os outros veículos de comunicação são parciais na experiência, Internet, ao contrário, oferece um nível virtual que cobre todos os aspectos e as dimensões da experiência humana<sup>4</sup>. Se trata de um nível ainda não explorado pela experiência humana, sem entrar em comparação imediata com os processos existentes mais que poderá ser considerado “sem relevância” para a autenticidade humana da experiência vivida. Em sentido prático, se assiste às

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interwork with the other networks through a meta-level "Internetworking Architecture". Up until that time there was only one general method for federating networks. This was the traditional circuit switching method where networks would interconnect at the circuit level, passing individual bits on a synchronous basis along a portion of an end-to-end circuit between a pair of end locations. Recall that Kleinrock had shown in 1961 that packet switching was a more efficient switching method. Along with packet switching, special purpose interconnection arrangements between networks were another possibility. While there were other limited ways to interconnect different networks, they required that one be used as a component of the other, rather than acting as a *peer* of the other in offering end-to-end service».

<sup>1</sup> J. Kaplan (Berkman Center for Internet & Society at Harvard University), *ROADMAP FOR OPEN ICT ECOSYSTEMS*, in «Internet» 2008, <http://209.85.135.104/search?q=cache:rkgtQKMPKXAJ:cyber.law.harvard.edu/epolicy/roadmap.pdf+ict+open+architecture&hl=it&ct=clnk&cd=2&gl=it>: «The word open conveys a sense of unconstrained access and use, and is widely employed with a great sense of shared ownership. Open by itself is difficult to define outside of a specific context. However, consensus has emerged on its use contextualized by essential aspects of an open ICT ecosystem, including development, access and ownership of technologies».

<sup>2</sup> J. MacKenzie, *Synthesis: The Impact of ICT on Participatory Development*, in idem, *Holding back the Tide. Improving Participatory development by Utilizing Information and Communication Technology*, in «Internet» 2008, <http://www.alexandrasamuel.com/netpolitics/studentsites/publicsites/JeffMcK/synth.html>: «Meaningful Empowerment. The area of increasing meaningful empowerment is intrinsically linked with the concept of decentralization. Once again, the nature of developmentally adapted personal computing suggests the possibility of giving the poorest access to the global network, to fulfil Participatory Development's stated desire "to give priority to those who are more deprived – the poor, physically weak, vulnerable, isolated and powerless, and help them change these conditions... [Also, as an extension of this, there is also the desire] to enable them to identify and demand what they want and need"(Chambers, 1993, 10). As a consequence of the decentralized environment that ICT can provide, all members effected by a certain project have the ability to input their ideas, concerns, and opinions. In effect, ICT provides the ability to realistically provide the indigenous peoples of developing nations with control: the people can set their goals, methods and timetables through ICT empowerment. As well as providing an egalitarian voice, the ICT environment also allows the possibility for the implementation of direct democracy in development projects. Relevant issues could be debated, articulated, and voted upon through the enabling nature of ICT. This is a full extension of the concept of giving the power to the people, and trusting the leadership of the impoverished that is so prevalent in Participatory Development theory. To recapitulate the argument of this subsection, the inclusion of ICT into Participatory Development theory has allowed for the extension of the theory into a goal of creating systems dedicated to the meaningful empowerment of developing peoples».

<sup>3</sup> L. Sade-Beck, *Internet Ethnography: Online and Offline*, in «International Journal of Qualitative Methods», 3 (2) June, 2004, pp. 2-3, etiam in «Internet» 2006, [http://www.ualberta.ca/~iiqm/backissues/3\\_2/pdf/sadebeck.pdf](http://www.ualberta.ca/~iiqm/backissues/3_2/pdf/sadebeck.pdf): «Cyberspace, or cybernetic space, through which users move, does not imitate the real world, but rather creates a rapid, new, immediate, multi-layered world, thanks to the 24 hour per day, 7 days a week accessibility to the Internet and site structure (Nunes, 1997)».

<sup>4</sup> S. Vaknin, *Internet: A Medium or a Message? Essays regarding the Internet, E-Commerce, E-Publishing, and Information Technology (IT)*, in «Internet» 2006, <http://samvak.tripod.com/internet.html>: «Comprehensive (Virtual) Reality. This is the first (though, probably, not the last) medium which allows the user to conduct his whole life within its boundaries. Television presents a clear division: there is a passive viewer. His task is to absorb information and subject it to minimal processing. The Internet embodies a complete and comprehensive (virtual) reality, a full fledged alternative to real life. The illusion is still in its infancy - and yet already powerful. The user can talk to others, see them, listen to music, see video, purchase goods and services, play games (alone or with others scattered around the globe), converse with colleagues, or with users with the same hobbies and areas of interest, to play music together (separated by time and space). And all this is very primitive. In ten years time, the Internet will offer its users the option of video conferencing (possibly, three dimensional, holographic). The participants' figures will be projected on big screens. Documents will be exchanged, personal notes, spreadsheets, secret counteroffers. Virtual Reality games will become reality in less time. Special end-user equipment will make the player believe that he, actually, is part of the game (while still in his room). The player will be able to select an image borrowed from a database and it will represent him, seen by all the other players. Everyone will, thus, end up invading everyone else's private space - without encroaching on his privacy! The Internet will be the medium of choice for phone and videophone communication (including conferencing). Many mundane activities will be done through Internet: banking, shopping for standard items, etc. The above are examples to the Internet's power and ability to replace our reality in due time. A world out there will continue to exist - but, more and more we will interact with it through the enchanted interface of the Net».

condições virtuais de gestão que os ICT-TIC podem implementar e que têm como premissa o aumento da potência e da memória através de “servers” com tais capacidades <sup>1</sup>. Se trata de um “princípio organizacional” de trocas comunicativas que contextualiza os imperativos de “gravidade” (espaço) e de simultaneidade (tempo) <sup>2</sup>.

### *A articulação convergente dos vários meios específicos cria um todo interligado*

A característica primária da nova comunicação se expressa de modo mais explícito no momento e no contexto da maior afirmação da Internet. A sua característica de plataforma convergente (cfr supra) é também de aliar comunicação pessoa (inter-pessoal) e comunicação de massa (do individualmente passivo ao individualmente ativo [interativo]) <sup>3</sup>. A sua breve história ilustra como ela se expande e envolve as várias dimensões e os vários níveis da experiência humana. As tentativas de comparar com o que já foi percorrido na comunicação multimédia não coincidem. Tentando focalizar mais acuradamente a pergunta sobre “aquilo que está acontecendo na nova comunicação através da Internet”, se poderia sugerir que Internet, mais que ser um “outro ou um novo “meio”, parece ser uma compressão condensada de todos os meios precedentes e uma rede ampliada de todos eles. Mais do que o “novo”, parece que seja o aspecto de complexidade que chama a atenção dos observadores do fenómeno.<sup>4</sup> Expressando, simplesmente, uma elementar “navegação” através Internet mostra imediatamente que se pode pensar que ser informado pela Internet, fazer coisas através da Internet (agir operativamente), e ter emoções pela Internet (perceber sentimento), é, não só segundo o duplo clássico (escolástica) compreensão ocidental do ser humana como “animal rationalis” - razão e ação. Parece, realmente, que a chave de convergência de todos os serviços em um acesso único coordenado e simplificado seja a demanda mais urgente para a posterior configuração dos (N)ICT <sup>5</sup>. Não há conectividade de alta eficácia sem compatibilidade

<sup>1</sup> THE UNIVERSITY OF SYDNEY, *Relationship Management – ICT*, in «ICT News, August 2006», in «Internet» 2008, <http://www.usyd.edu.au/ict/relation/news/2006-08.shtml>: «The ICT Infrastructure group is achieving substantial benefits and savings through the use of virtual servers to consolidate multiple server functions onto relatively small numbers of physical server computers. With the introduction of dual-core processors running at 2-3Ghz and the pending release of quad-core processors in the x86 commodity server space, significantly increased power is available in server hardware. The Infrastructure group has therefore adopted a strategy of virtualizing Windows and Linux servers wherever possible. The platform currently being used is VMware ESX 2.5.3 running on Sun AMD x4200 dual-core dual-processor servers with 8GB of memory. There are currently seven physical servers in two farms, running a total of 65 virtual machines. The operating systems on these virtual machines are a mixture of Windows NT, 2000 and 2003, and Debian and Red Hat Linux. Applications running on the virtual servers cover a wide range of functions, including Citrix servers, application servers, web servers and database (Oracle, Sybase, Mssql) servers...For the future, it is planned to provide additional memory in the physical servers to allow more virtual machines to be run. The number of servers in the farms will also be expanded. An upgrade to VMware ESX 3 will add features such as Load Balancing and High Availability. In addition to VMware, ICT is also consolidating Solaris applications, using Solaris zones on Sun Ultrasparc platforms. Again the strategy is that when an application runs on an old server due to be retired, where possible it is migrated to a zone on an existing server. The benefits are similar to those experienced with VMware.

<sup>2</sup> C. Cupitt, *Changing Communication Technology: Evolution or Revolution?*, in «Internet» 2007, <http://www.geocities.com/Area51/Hollow/2405/information.html>: «With this new "organising principle" mediating exchanges, there is the potential that a new plane of thinking and speaking will emerge, in which there are no longer merely the dimensions that gravity and time impose, but a multiplicity of virtual dimensions. A world in which we may indeed be able to 'walk' not only on the floor and the walls, but through them too. And a world where communication structures are so dissimilar to those of the present day that current 'isms' (racism, sexism, etc) have little or no meaning. *What distinguishes hypermedia is that it posits an information structure so dissimilar to any other in human experience that it is difficult to describe as a structure at all. It is non-linear, and therefore may seem an alien wrapping of language when compared to the historical path written communication has traversed* (1)».

(1) Burnett, p. 371 (paragraph 1).)

<sup>3</sup> Liav Sade-Beck, *Internet Ethnography: Online and Offline*, in «International Journal of Qualitative Methods», 3 (2) June, 2004, pp. 2-3, etiam in «Internet» 2006, [http://www.ualberta.ca/~iiqm/backissues/3\\_2/pdf/sadebeck.pdf](http://www.ualberta.ca/~iiqm/backissues/3_2/pdf/sadebeck.pdf): «The Internet and its social implications. In contrast to other media, the Internet integrates personal and mass media. It has, in fact, created a new mode of human communication, enabling participants to take part in two-way mass communication. Users of the World Wide Web are no longer passive audiences of data consumers, as in media such as television and radio, but are active participants controlling the content of the information. They shape the quality of the data and respond to them».

<sup>4</sup> H. Pigeat, *Ethique des médias et révolution de l'Internet*, Rome 2001 (pro manuscripto – Centre culturel Saint-Louis de France), p. 3 : «L'Internet est le résultat de la rencontre de plusieurs techniques. L'informatique, appelée aussi numérisation permet de traiter sur le même support des textes, des sons et des images. Les télécommunications, grâce aux satellites, à la fibre optique et au spectre hertzien ouvrent des capacités de transmission pratiquement sans limite. La plupart des activités industrielles et des services sont bouleversés par l'Internet: services bancaires, services administratifs, commerce, médecine, enseignement etc... ».

<sup>5</sup> NEWSWIRETODAY (newswire), *ICT Decision Makers Face Supplier Conundrum Says Survey*, Press Release, London, United Kingdom, 11/05/2007, in «Internet» 2008, <http://www.newswiretoday.com/news/25724/>: «"What is clear is that there are varying degrees of contracting services, with all respondents using some form of external suppliers of services. ICT managers are facing tough decisions on how best to use these suppliers to provide full or part-sourcing services, that will deliver true business and operational impact," commented Nick Dean, Managing Director, Damovo UK. The survey then went on to ask which ICT areas decision makers currently have or would consider having managed by others. The most common areas, either out or part-sourced, are network management (44 per cent) and security management (38 per cent). Desktop management was currently the least out or part-sourced area (26 per

dos programas e sistemas. Mais a adequação dos custos e das gestões e a convergência entre as distinções de estabelecimentos fixos-móveis também se faz mais urgente <sup>1</sup>.

### *A pessoa humana simultaneamente e penetrada “online” e “offline”*

Internet concentra uma dupla dinâmica humana: a inter-pessoal (offline) e a distância (online) <sup>2</sup>. A especificidade desta configuração humana é que os níveis ou as duas dimensões não possam ser separadas uma da outra, fazem parte, isto é, de uma indissolúvel dinâmica humana. Dizer que “online” é um âmbito separado, talvez virtual ou irreal, assinala a qualidade redutiva do exame antropológico ou “netnográfico” do tipo de pessoa humana que encontramos diante de nós. O tratamento dos textos “pdf” exemplifica ulteriormente que se possa criar “offline” para depois inserir o trecho escrito “online” (como também para imagem, vídeo ou áudio) <sup>3</sup>. Aí onde as várias etapas de afirmação comunicativa, pela editoria à computadorização, se apresentam facilmente como um tipo de “meio”, o seja, de suporte mediático, Internet os inclui todos e não se identifica simplesmente como um “tool”. Especificamente, a característica da Internet é de reunir comunicação pessoal e de massa (do individualmente passivo ao individualmente ativo) <sup>4</sup>. A sua breve história ilustra como isso se expande e envolve as várias dimensões e os vários níveis da experiência humana. Se se quisesse caracterizar a especificidade da Internet, se poderia dizer que isso significa a penetração das experiências humanas entre ‘online’ e ‘offline’ (na linguagem

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cent), however a number of the respondents stated they would consider this in the future. The overall research findings seem to reflect an underlying silo mentality, amongst the respondents, with organisations possibly packaging their outsourcing needs to supporting technology rather than an end-to-end service. “With convergence driving the integration of once stand-alone services, this identifies the need for ‘convergent suppliers’. A smarter supplier model that consolidates ICT support into more logical functions makes sense. For example, those support communications and networking infrastructure should also support desktop applications and devices, as these are integral components of the real-time unified communications world of voice and data,” concludes Nick Dean».

<sup>1</sup> ICT REGULATION TOOLKIT, 5.11.5 Exogenous Cost Factors, in «infoDev», in «Internet» 2008, <http://www.ictregulationtoolkit.org/en/Section.2162.html>: «CONCLUSION. There are significant technological and competitive changes occurring in the telecommunications industry such as the advancement and rapid growth of wireless services, the rapid development of packet-based communications, (VoIP), the emergence of cable companies as strong competitors to traditional phone companies and the potential for convergence to obliterate remaining distinctions between fixed and wireless communications. As a result, regulators have begun the process of evaluating whether current price regulations still remain necessary for traditional telecommunications carriers. While certain form of regulatory intervention will likely remain for the long run—such as numbering resources, interconnection oversight, spectrum allocation, etc—some regulators have already decided that traditional telecommunications firms no longer possess market power and accordingly these regulators have begun the process of deregulating telecommunications carriers».

<sup>2</sup> L. Sade-Beck, *Internet Ethnography: Online and Offline*, [http://www.ualberta.ca/~iiqm/backissues/3\\_2/html/sadebeck.html](http://www.ualberta.ca/~iiqm/backissues/3_2/html/sadebeck.html): «In contrast to other media, the Internet integrates personal and mass media. It has, in fact, created a new mode of human communication, enabling participants to take part in two-way mass communication. Users of the World Wide Web are no longer passive audiences of data consumers, as in media such as television and radio, but are active participants controlling the content of the information. They shape the quality of the data and respond to them. The Internet opens up a simple virtual topography of sites and “addresses” to users, allowing travel from site to site by moving from link to link. Cyberspace, or cybernetic space, through which users move, does not imitate the real world, but rather creates a rapid, new, immediate, multi-layered world, thanks to the 24 hour per day, 7 days a week accessibility to the Internet and site structure (Nunes, 1997). Vast amounts of data and links to additional, related sites provide a huge storehouse of available information; thus, the Internet is a technological innovation tightly linked to social change. These social changes have clear implications for the patterns of expression of emotions. Online communication on the Internet facilitates the expression of emotions (output) and the input of emotional messages, thus developing and reinforcing important social ties between users, forming a system of relationships similar to ties of family and friendship, all taking place without participants being physically present. Thus, the Internet may be said to aid in preserving personal and intimate ties in cases where face-to-face contact is impossible due to physical distance between parties. Online interaction through the Internet exists mostly as a written medium, operating within a communications framework that takes place either in “real time” or as delayed interaction; in either form, however, the Internet transforms the act of writing into “speech”».

<sup>3</sup> S. Vaknin, *Internet: A Medium or a Message? Essays regarding the Internet, E-Commerce, E-Publishing, and Information Technology (IT)*, in «Internet» 2006, <http://samvak.tripod.com/internet.html>: «The cessation of hostilities between the Internet and some off-the-shelf software applications heralds the commencement of the integration between the desktop computer and the Net. This is a small step for the user - and a big one for humanity. The animosity which prevailed until recently between the UNIX systems and the HTML language and between most of the standard applications (headed by the Word Processors) - has officially ended with the introduction of Office 97 which incorporates full HTML capabilities. With the Office 2000 products, the distinctions between a web computing environment and a PC computing one - have all but vanished. Browsers can replace operating systems, word processors can browse, download and upload - the PC has finally been entirely absorbed by its offspring, the internet. The Portable Document Format (PDF) enables the user to work the Internet off-line. In other words: text files will be loaded to word processors and edited off-line. The same applies to other types of files (audio, video). Downloading time will be speeded up (today, it takes so long to download an audio or video file that, many times, it is impracticable). This is not a trivial matter. The ability to switch between on-line and off-line states and to continue the work, uninterrupted - this ability means the integration of the PC in the Internet».

<sup>4</sup> Liav Sade-Beck, *Internet Ethnography: Online and Offline*, in «International Journal of Qualitative Methods», 3 (2) June, 2004, pp. 2-3, etiam in «Internet» 2006, [http://www.ualberta.ca/~iiqm/backissues/3\\_2/pdf/sadebeck.pdf](http://www.ualberta.ca/~iiqm/backissues/3_2/pdf/sadebeck.pdf): «The Internet and its social implications. In contrast to other media, the Internet integrates personal and mass media. It has, in fact, created a new mode of human communication, enabling participants to take part in two-way mass communication. Users of the World Wide Web are no longer passive audiences of data consumers, as in media such as television and radio, but are active participants controlling the content of the information. They shape the quality of the data and respond to them».

atual, – isto é – “em linha a distância” ou “inter-pessoal”<sup>1</sup>, dissolvendo o ‘vaso estanque’ do “virtual” fechado sobre si mesmo e trancado no âmbito “irreal”<sup>2</sup>. Os prognósticos sobre a incidência da Internet se orientam em três direções: ou a restrição do uso a uma elite, ou a dissolvência das barreiras através da difusão, ou o caos tanto no acesso como na qualidade de trocas e da investigação<sup>3</sup>.

### *A fronteira espaço- temporal das pessoas*

O conhecimento da configuração anatômica, da atividade operativa, e do comportamento emotivo, converge para o conhecimento da multimídia comunicativa, do operativo das instituições sociais, da sensibilidade artística (cfr acima). A pessoa humana é um feixe orgânico de impulsos numa ampla “rede” de impulsos nervosos comunicantes. O voltar-se para si mesmo torna-se menos defensável. A conectividade dos e entre os impulsos parece fundamental. O dado característico seria tudo o que se realiza fora da “célula” nervosa, mais graças ao “contato” entre células nas suas conexões relacionais (a sinapse) do sistema nervoso central<sup>4</sup>. As conexões não são predeterminadas pelo sistema genético, mais surgem do processo de relação da experiência humana, particularmente no ambiente cultural, superando assim uma “aproximação darwiniana” na pesquisa “neuro-cultural”<sup>5</sup>. Põe-se, então, a questão da fronteira entre os “impulsos que são eu” e os “impulsos que são o outro”, e assim por diante. A relação intrínseca e a extrínseca se cruzam. A “forma” corporal do “agora” e do “aqui” não conseguem conter a pessoa enquanto tal. Não existe mais um “espaço”

<sup>1</sup> E. Ardevol, *Cyberculture: Anthropological perspectives of the Internet. Using anthropological theory to understand media forms and practices workshop Loughborough, 9th December, 2005*, in «Internet» 2006, [http://www.philbu.net/media-anthropology/lboro\\_ardevol.pdf](http://www.philbu.net/media-anthropology/lboro_ardevol.pdf): «The counter part of these positions, most of which view Internet cultures as new cultural forms that elude offline social and cultural categories, allowing more democratic and collaborative models of social interaction in metaphysic communities, was the ethnographic work of Daniel Miller and Don S later, which situated online practices in relation with people daily life in a concrete cultural context. People construct online collective identities, but these online interactions could not be understood only in terms of a specific disembodied “virtual” culture. In fact, they said, these online groups only make sense in relation to offline social, political and cultural contexts. Breaking with the online/offline, real/virtual dichotomies was very useful to begin to understand online interaction as a part of daily life activities, as a social practice».

<sup>2</sup> Vedere come il documento del Pontificio Consiglio delle comunicazioni sociali situa il virtuale nella sua caratteristica di possibile danno per la persona individuale: PONTIFICAL COUNCIL FOR SOCIAL COMMUNICATIONS, *Ethics in Internet*, in «Internet» 2002, [http://www.vatican.va/roman\\_curia/pontifical\\_councils/pccs/documents/rc\\_pc\\_pccs\\_doc\\_20020228\\_ethics-internet\\_en.html](http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_20020228_ethics-internet_en.html): «13. The medium’s implications for psychological development and health likewise need continued study, including the possibility that prolonged immersion in the virtual world of cyberspace may be damaging to some. Although there are many advantages in the capacity technology gives people to “assemble packages of information and services uniquely designed for them”, this also “raises an inescapable question: Will the audience of the future be a multitude of audiences of one?...What would become of solidarity—what would become of love—in a world like that?” (1)».

(1) Ethics in Communications, n. 29.)

<sup>3</sup> B. Schwimmer, *Anthropology on the Internet*, in «Current Anthropology», Volume 37, Number 3, June 1996, p. 567, etiam in «Internet» 2006, <http://www.journals.uchicago.edu/CA/articles/prospects.html>: «Contemporary anthropologists are now in the interesting position of experiencing, observing, and perhaps controlling a problem they have often attempted to understand -- technological change. The observations in this essay suggest that Internet expansion will not have a predetermined or straightforward effect on the social order and cultural values of academia. Three models of equal probability can be envisioned. One predicts a narrowing of opportunity and enhanced control by cultural and social elites as increasing costs and withdrawal of government support restrict opportunities for acquiring the necessary technology and information resources. A second promises an evaporation of traditional academic barriers and structures and the emergence of a new order marked by collaborative research and altruistic sharing of knowledge and benefits among all components of the scholarly community. The third warns of a chaotic system in which scholarship is trivialized by the disintegration of regulation and standards. At this point we can do more than passively observe the interaction of technological, cultural, and social forces within our own community. We can begin to appreciate the importance and power of the new forms of scholarship that are emerging, think about how we can use new technologies to construct intellectual and social objectives for our discipline, and create the necessary mechanisms and standards for realizing them».

<sup>4</sup> D. De Kerckhove, *Introduction à la recherche neuroculturale*, in D. De Kerckhove-A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, p. 164: «Il s’agit de la théorie de l’*épigénèse*. Comme l’explique Changeux, «La grande majorité des synapses du cortex cérébral se forment après la mise au monde de l’enfant. La poursuite, longtemps après la naissance, de la période de prolifération synoptique, permet une «imprégnation» progressive du tissu cérébral par l’environnement physique et social» (HN-320). Ce serait donc au niveau, non de la cellule nerveuse (le neurone), mais de ses «points de contact» (les synapses), dont le nombre peut atteindre 30.000 par cellule, que la rencontre avec l’environnement pourrait affecter l’organisation cérébrale. Il va sans dire qu’à ce niveau, l’articulation des nuances les plus subtiles, est au moins théoriquement possible».

<sup>5</sup> D. De Kerckhove, *Introduction à la recherche neuroculturale*, in D. De Kerckhove-A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, p. 164: «La théorie de «la stabilisation sélective des synapses» (HN-301-302) suppose que les connexions qui relient les neurones entre eux et aux organes, ne sont pas programmées telles quelles par l’enveloppe génétique, mais qu’elles dépendent de processus de sélection et de stabilisation qui sont déterminés non pas d’avance, mais en cours d’utilisation. Cela voudrait dire qu’à certaines périodes de croissance programmées génétiquement, l’organisme ne pourrait se développer que dans la mesure où il subirait et marquerait les variables internes ou externes qui prévalent dans son environnement. Changeux laisse entendre que chez l’homme, l’environnement culturel doit être compris parmi ces conditions et il résume cette idée par cette formule saisissante: «Au darwinisme des gènes succède le darwinisme des synapses». Je ne puis mieux faire ici que renvoyer le lecteur à son admirable démonstration, en me bornant à relever cette conclusion, très pertinente pour la recherche neuroculturale: «la mise en place de l’empreinte culturelle se fait de manière progressive. Le contingent moyen de 10.000 (ou plus) synapses par neurone du cortex ne s’établit pas en une seule fois. Au contraire, celles-ci prolifèrent par vagues successives depuis la naissance jusqu’à la puberté, chez l’homme. Chaque vague inclut vraisemblablement, redondance transitoire et stabilisation sélective. Il s’ensuit un enchaînement de périodes critiques où l’activité exerce son effet régulateur » (HN-329)».

ou um só tempo, mas há uma pluralidade de proximidade espaço-temporal segundo a conectividade das relações: dir-se-á que assistimos à “virtualização” do tempo e do espaço <sup>1</sup>.

### *A sociedade animada pela “rede inteligente” se torna um organismo*

O ponto de passagem à nova característica se concretiza com Internet que poderia representar, segundo alguns, uma “rede inteligente” que confirmaria a idéia de uma “sociedade como organismo” <sup>2</sup>. Outros sugeririam que Internet está “reconfigurando” a “sociedade” inteira: o nosso modo de vida, a nossa experiência humana <sup>3</sup>. As declarações entusiásticas destas aproximações são bem conhecidas. Diz-se algumas vezes que Internet se assemelha a uma cidade com todas as suas funções. <sup>4</sup>

### *A nova era da comunicação como “sociedade do saber (da informação)”*

A especificidade antropológica que se delineia seria a da “e-mind”, da “e-inteligência” ou inteligência “interconectiva” <sup>5</sup>. O nível de experiência humana envolvido são a ciência e a educação,

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<sup>1</sup> P. Lévy, *QU'EST-CE QUE LA VIRTUALISATION?*, in idem, *SUR LES CHEMINS DU VIRTUEL*, in «Internet» 2007, <http://hypermedia.univ-paris8.fr/pierre/virtuel/virt1.htm>: «Nouveaux espaces, nouvelles vitesses. Mais le même mouvement qui rend contingent l'espace-temps ordinaire ouvre de nouveaux milieux d'interaction et rythme des chronologies inédites. Avant d'analyser cette propriété capitale de la virtualisation, il nous faut au préalable mettre en évidence la pluralité des temps et des espaces. Dès que la subjectivité, la signification et la pertinence entrent en jeu, on ne peut plus considérer une seule étendue ou une chronologie uniforme, mais une multitude de types de spatialité et de durée. Chaque forme de vie invente son monde (du microbe à l'arbre, de l'abeille à l'éléphant, de l'huître à l'oiseau migrateur) et, avec ce monde, un espace et un temps spécifique. L'univers culturel, propre aux humains, étend encore cette variabilité des espaces et des temporalités. Par exemple, chaque nouveau système de communication et de transport modifie le système des proximités pratiques, c'est-à-dire l'espace pertinent pour les communautés humaines. Lorsque l'on construit un réseau de chemin de fer, tout se passe comme si l'on rapprochait physiquement les unes des autres les villes ou les zones connectées par le rail et que l'on éloignait de ce groupe celles qui ne le sont pas. Mais, pour ceux qui ne prennent pas le train, les anciennes distances sont encore valables. On pourrait en dire autant de l'automobile, du transport aérien, du téléphone, etc. Il se crée donc une situation où plusieurs systèmes de proximités, plusieurs espaces pratiques coexistent».

<sup>2</sup> F. Heylighen, *The Global Brain FAQ* (Principia Cybernetica Web), in «Internet» 2004, <http://pespmc1.vub.ac.be/GBRAFAQ.html>: «As the variety of names indicates, many people have independently developed the idea of society as an organism with its own nervous system, each adding their own insights to our understanding of the global brain. Simplistic analogies between a social system and the body, such as "the king is the head", "the farmers are the feet", date back at least to the Ancient Greeks and the Middle Ages. This analogy provided inspiration to the 19th century founders of sociology, being developed perhaps most extensively by Herbert Spencer (see his "[Society is an Organism](#)"). The evolutionary theologian Teilhard de Chardin was probably the first to focus on the mental organization of this social organism, which he called the "noosphere". Around the same time, the science fiction writer H. G. Wells proposed the concept of a "world brain" as a unified system of knowledge, accessible to all. The term "global brain" seems to have been first used in 1983 by P. Russell. The first people to have made the connection between this concept and the emerging Internet may well be G. Mayer-Kress and J. de Rosnay. F. Heylighen, J. Bollen and B. Goertzel appear to be the first researchers to have proposed concrete methods that might turn the Internet into an intelligent, brain-like network».

<sup>3</sup> Th. P. Novak – D. L. Hoffman, *Bridging the Digital Divide: The Impact of Race on Computer Access and Internet Use*, in «Internet» 2002, [http://www.empowermentzone.com/race\\_int.txt](http://www.empowermentzone.com/race_int.txt), (From the web page: <http://www2000.ogsm.vanderbilt.edu/papers/race/science.html>, Project 2000, Vanderbilt University, February 2, 1998. This Working Paper is a longer version of the article, "Bridging the Racial Divide on the Internet," published in «Science», April 17, 1998): «That portion of the Internet known as the World Wide Web has been riding an exponential growth curve since 1994 (Network Wizards 1998; Rutkowski 1998), coinciding with the introduction of NCSA's graphically-based software interface Mosaic for "browsing" the World Wide Web (Hoffman, Novak, and Chatterjee 1995). Currently, over 29 million hosts are connected to the Internet worldwide (Network Wizards 1998), and somewhere between 60 to 75 million adults (CyberAtlas 1998) in the United States alone have access to around 320 million unique pages of content (Lawrence and Giles 1998), globally distributed on arguably one of the most important communication innovations in history. Enthusiasm for the anticipated social dividends of this "revolution in democratic communication" (Hoffman 1996) that will "harness the powerful forces of science and technology" (Clinton 1997a) for all members of our society appears boundless. The Internet is expected to do no less than virtually transform society. Nowhere is this confidence expressed more clearly than in President Clinton's aggressive objective to wire every classroom and library in the country by the year 2000 (NetDay 1998), followed by every home by the year 2007, so that "every 12-year-old can log onto the Internet" (Clinton 1997b)».

<sup>4</sup> Lerner, *Learn the Net, Master the Basics: Net Anatomy*, in «Internet» 2004, <http://www.learnthenet.com/english/html/03future.htm>: «Even though the Internet is a global network, in many ways it resembles a small town, with similar services. Let's say you want to send or receive mail. The Internet has electronic post offices. There are online libraries with millions of books and periodicals you can use any time of the day or night. Chat rooms are the Internet equivalent of 24-hour coffee shops, with people eager to gab anytime you want. The World Wide Web is like a giant mall, where you can shop, order a pizza, preview a movie, and listen to radio stations from around the world. All of these represent different ways of using the Internet. In the real world you travel to different places over the same network of roads using different modes of transportation. You might use a car for a pleasure trip and a truck for hauling lumber. Getting around on the Internet works much the same way. To understand the Internet, it is helpful to realize that many different kinds of communication go on at the same time. You use different software programs to accomplish different tasks: for instance, a web browser to access shopping sites and an e-mail program to send and receive messages. Some programs, such as Microsoft Internet Explorer, actually contain more than one kind of program. For instance, Explorer has a web browser a newsreader and a media player. (In later articles, we will explain what each of these programs do.) You can also use more specialized and sophisticated software, such as RealPlayer, a stand-alone media player or combine different software programs together into a system that works for you».

<sup>5</sup> P. Manzelli, *Le nuove teorie di sviluppo della mente e le nuove tecnologie di apprendimento: strategie per condividere la progettazione e gestione di sistemi complessi di formazione continua on line*, (convegno: Inforscuola -Udine – 3/4/5 dicembre 2002), in «Internet» 2002, <http://www.chim1.unifi.it/group/education/index.html>: «La rapida crescita della complessità dei sistemi elettronici di comunicazione interattiva e di intelligenza artificiale determina lo sviluppo di un invisibile cervello elettronico (e.Brain) cioè di una creatura virtuale le cui braccia sono i Robot, le

a ação sócio-econômica (industrial, comercial, financeira), o ambiente cultural. A “sociedade da informação” – diz-se- é “uma sociedade gerada, constituída e administrada pelo acesso, assimilação e uso do saber compartilhado graças às tecnologias da comunicação e informação”<sup>1</sup>. O saber da informação é um “bem público global”: isto é diretamente acessível a todos, inexaurível, possuído somente como acessório (condicionando a participação)<sup>2</sup>. Vai-se bem além da “informação pública”<sup>3</sup>. Falava-se de “inteligência artificial”<sup>4</sup>: poderia nascer um “cérebro global”<sup>1</sup>, “cérebro

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cui gambe sono nuovi sistemi di trasporto, i cui organi di senso sono i sensori artificiali che utilizzano una gamma di frequenze che va oltre le possibilità di ricezione umana, ecc.ecc.. tutto ciò determina un profondo cambiamento epocale nelle necessità di apprendimento e di formazione mentale dei giovani in funzione delle loro possibilità di lavoro intellettuale nella futura società Europea della economia della conoscenza... *In sostanza l' uomo non nasce intelligente , ma lo può diventare se viene educato in modo adeguato ad esercitare la comunicazione della proprio pensiero ed attitudini, nel contesto epocale di sviluppo dei sistemi di comunicazione... A partire da tale assunto, e' importante analizzare quali siano oggi le strategie di formazione ed utilizzazione del sistema mnemonico cerebrale che risultano necessarie per attuare il confronto del flusso dei dati informativi, selezionandoli opportunamente, per esercitare una modifica significativa dell' apprendimento progressivo, tale che favorisca la plasticità delle potenziali caratteristiche intellettuali di un individuo e della società in divenire... La capacità di risposta proattiva del cervello viene quindi a dipendere dal confronto del flusso dei dati informativi con la articolazione delle memorie individuali , di conseguenza cio' va a connettersi con le modalità con cui viene codificato nell' apprendimento al fine di poter fornire nuove significazioni del pensiero e del comportamento, relative alla informazione ricevuta , attuando una rinnovata elaborazione del ricordo... Le varie forme di intelligenza, relative alla capacità di pensare, vengono pertanto a dipendere essenzialmente dalle modalità di elaborazione della informazione in significati che si esercita nel dare sviluppo alla memoria semantica... Dunque l'evoluzione biologica tende ad espandere flessibilmente i campi d'interazione neuronali favorendo quelle capacità di apprendimento che corrispondono ad una riorganizzazione delle aree di integrazione delle attività mnemoniche in modo da favorire le potenzialità di comunicazione sociale di pensiero ed azioni in una determinata epoca... Invero troppo spesso in questa complessa situazione di trasformazione culturale ci troviamo come una *crisalide che continui a ragionare come il bruco invece di cercar di comprendere il proprio futuro di farfalla...E' attualmente possibile infatti realizzare un passaggio diverso di trasformazione della memoria episodica individuale in memoria memoria semantica comunicativa*, in modo da utilizzare appropriatamente il processo di “*esternalizzazione della memoria*” in rete telematica interattiva, ponendo in sinergia una ampia condivisione di conoscenze, non piu' centrata sul l'apprendimento individuale (*learner centered training*) , ma sul network collaborativi finalizzati alla costruzione di una “*intelligenza connettiva distribuita in rete*” . (*learning teams centered “e-education”*) ... Il limite di tale sistema “*unidirezionale*” di informazione, consiste proprio nel fatto che limitando la proattività nelle costruzione del sapere, non è stato storicamente possibile dare sviluppo ad una “*intelligenza connettiva*” che sarà la reale premessa di una effettiva “*democrazia culturale*” la quale potrà svilupparsi nel prossimo futuro, sulla base di una costruzione coscientemente interattiva e quindi non piu' gerarchizzata della condivisione del sapere... Dobbiamo oggi contare però che la realizzazione di una ‘necessità di cambiamento propria di una epoca di trasformazione sociale ed economica nel quale stiamo vivendo, per quanto già abbia a disposizione lo strumento tecnologico di comunicazione interattiva, si sviluppa in un contesto formativo nel quale sono ancora carenti le competenze ed abilità necessarie per generare una ampia integrazione tra reti tecnologiche e reti sociali. Pertanto lo strumento “internet”, va considerato ancora come una condizione necessaria, ma non sufficiente per attuare un rapido cambiamento cognitivo ed acquisire quelle raffinate capacità e professionalità innovative, proprie nella gestione creativa delle conoscenze nel WWW, che rappresentano la effettiva esigenza primaria per organizzare lo sviluppo della futura società della “*Economia della Conoscenza*”... Purtroppo la nuova “*dimensione reticolare delle conoscenze*”, frutto della applicazione delle nuove tecnologie di comunicazione in internet , le quali permettono un semplice “CLICK” di comunicare in tempo reale con varie parti del mondo generando un ampio spazio virtuale per la condivisione cognitiva, in vero non posseggono ancora quelle caratteristiche che permettano un rafforzamento emozionale delle memorie semantiche, limitando in tal guisa la integrazione del “*sistema limbico*” nell' attuazione del passaggio da “*memoria a Breve termine in memoria a Lungo termine*”... Viceversa le “*memorie implicite*”, sono solo apparentemente rimosse od inattive, pur continuando, ad agire fuori da ogni condizionamento linguistico, nell' inconscio fornendo la possibilità recondita di forgiare creativamente il rinnovamento della nostra personalità nell' attività piu' propria dell' *Immaginario*, anche durante il sogno... Prese in considerazione le precedenti note si inizia intuitivamente a comprendere come divenga possibile che l' *Ego- genotipico*, inizi a formarsi nell' interattività della rete quasi inconsciamente nell'ambito dello sviluppo delle “*Intelligenza Connettiva*”, estendendosi nell' organizzare le conoscenze nel “WWW” mediante la formazione di “*comunità virtuali*”, per approdare ad progressivamente alla formazione di un nuovo dominio delle *memorie semantiche distribuite dalla condivisione di conoscenza*, pur nella carenza di un rafforzamento emozionale individuale della memoria... *L' immaginazione, favorita dalle relazioni di comunicazione virtuale* , può pertanto sopperire alla carenza di un rinforzo emotivo nei percorsi di integrazione delle memorie semantiche nella loro estensione reticolare, recuperando almeno parzialmente, mediante un piu' potente ricorso all' *immaginario*, le memorie recondite, che erano state escluse dai tradizionali percorsi di formazione dei processi di integrazione cerebrale della memoria semantica individuale... Concludendo questa breve personalissima riflessione su “Le nuove teorie della mente e le nuove Tecnologie”, mi sento di poter affermare che, il dischiudersi di potenzialità nuove nella “*condivisione di conoscenze*”, le quali implicano rinnovate relazioni tra cultura universale e mente individuale nell' ambito di una rinnovata “*intelligenza connettiva*”, comporrà profonde modificazioni dei caratteri distintivi tradizionali della formazione della memoria e della sua evocazione».*

<sup>1</sup> Kofi Annan (UNITED NATIONS Secretary-General), *Development and international cooperation in the twenty-first century: the role of information technology in the context of a knowledge-based global economy. Report of the Secretary-General. E/2000/52, II. Information and communication technologies, globalization and the new knowledge-based economy*, in «Internet» 2005, <http://www.un.org/documents/ecosoc/docs/2000/e2000-52.pdf>: «11. Society endowed with the ability, capacity and skills to generate and capture new knowledge and to access, absorb and use effectively information, data and knowledge with the support of ICT».

<sup>2</sup> Kofi Annan (UNITED NATIONS Secretary-General), *Development and international cooperation in the twenty-first century: the role of information technology in the context of a knowledge-based global economy. Report of the Secretary-General. E/2000/52, II. Information and communication technologies, globalization and the new knowledge-based economy*, in «Internet» 2005, <http://www.un.org/documents/ecosoc/docs/2000/e2000-52.pdf> (p. 9): «7. Information and knowledge are instantaneously accessible, they are transportable and can be simultaneously distributed to an unlimited number of users. Indeed, they cannot be depleted. Their use by one does not prevent their use or consumption by another. They cannot be owned, though their delivery mechanisms can. Selling them entails sharing, not exclusive transfer. Indeed, information and knowledge represent a global public good».

<sup>3</sup> Cfr il testo: UNITED NATIONS, *General Assembly* (25 January 2005 – A/RES/59/126 A-B - Fifty-ninth session - Agenda item 78), *Resolutions adopted by the General Assembly* [on the report of the Special Political and Decolonization Committee (Fourth Committee) (A/59/473)], pro manuscripto, New York 2005, (18 pp.).

<sup>4</sup> Z. Pylyshyn, *Computers and Symbolisation of Knowledge*, in D. De Kerckhove - A. Ianucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, p. 246: «What people who work in the fields of artificial intelligence and cognitive science believe is that certain aspects of human capacity must also be regrouped or reconceptualized. Man has been variously understood as a creature of special creation, as a social entity and, in the late 19th century as a biological object. What some of us now believe is that there is another natural kind to which cognitive or rational action should be assigned. That kind is one that also includes certain sorts of machines as members in good standing: machines whose behaviour is governed by what they represent - by what they know. These are knowledge-driven systems, or what my philosopher friend Dan Dennett calls intentional systems. George Miller, who has

simbiótico”, ou seja, coletivo<sup>2</sup>, que se desenvolveria como um todo<sup>3</sup>. Fala-se também de uma espécie de “consciência planetária” (e inconsciência) em via de configuração<sup>4</sup>. Na consciência, quanto mais generalizada a “interconectividade”, mais se impõe um pluralismo metodológico<sup>5</sup>. Para chegar a este limite, é necessária uma tecnologia adapta para tal finalidade, chamada “tecnologia da sociedade da informação”, genericamente indicada com os sinal e-(o produto ou o serviço etc.)<sup>6</sup>.

*A nova comunicação um “sistema nervoso multi-humano”? Um “hiper-cérebro” compartilhado por toda a humanidade?*

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a way with words, has an even more picturesque word for this class of creatures. He calls them Informavores, or systems which are nourished and sustained by information. Because of this, certain forms of human behaviour are to be explained in precisely the same way we explain certain forms of computer behaviour. Thus, contrary to a widely held view, the computer is not a metaphor for mind, any more than geometry was a metaphor for space to Galileo. Rather it is a literal description, stated in terms of a more manageable member of the same natural kind. This is the new heresy: man the informavore, brother not only of the ape, but of the computer».

<sup>1</sup> N. F. McInnis, *THE FIRST INTERNATIONAL ELECTRONIC SEMINAR ON WHOLENESS, Time To Think The World Back Together*, in «Internet» 2004, [http://www.newciv.org/ISSS\\_Primer/seminar.html](http://www.newciv.org/ISSS_Primer/seminar.html): «It wasn't until 1977, upon discovering Science of Mind, that I found a more profound way of thinking about our interconnectivity. And it was yet six more years until I discovered a mindful theory of human interconnectivity while reading Peter Russell's book, *The Global Brain*. Observing that it takes the interconnectivity of 10 billion atoms to make a human cell, and of 10 billion human cells to make a human brain, Russell hypothesized that as we approach having 10 billion such brains on the planet, they will somehow interconnect to create a collective human consciousness. Earth's global body would thus acquire a global mind. A potential candidate for global-brain-like interconnectivity, the Internet, already existed in embryonic form when Russell's book was first written. Yet only today, with Internet activity increasing more rapidly than has any other technology in history, do we at last have a mass medium that reinforces the essence of our interconnectivity by empowering--as a consequence of linking--independently thoughtful minds».

<sup>2</sup> F. Heylighen, *The Global Brain FAQ* (Principia Cybernetica Web), in «Internet» 2004, <http://pespmc1.vub.ac.be/SUPORGLI.html>: «Although the analogy between organism and society can be applied even to primitive societies, it becomes clearly more applicable as technology develops. As transport and communication become more efficient, different parts of global society become more interdependent. At the same time, the variety of ideas, specializations, and subcultures increases. This simultaneous integration and differentiation creates an increasingly coherent system, functioning at a much higher level of complexity. The emergence of such a higher order system may be called a “metasystem transition” (a concept introduced by V. Turchin). Examples of metaystem transitions include the origin of life and the development of multicellular organisms out of single celled ones. The appearance of a global brain, functioning at a much higher level of intelligence than its human components, seems a prime example of such a metasystem transition».

<sup>3</sup> F. Heylighen, *The Global Brain FAQ* (Principia Cybernetica Web), in «Internet» 2004, <http://pespmc1.vub.ac.be/SUPORGLI.html>: «Although many of the technologies supporting the global brain were first developed by Artificial Intelligence (AI) researchers, AI and GB research differ in several basic aspects. AI's goal is to create an independently intelligent system, whereas GB research tries to enhance existing individual and collective intelligence. This may be called IA, *intelligence amplification*, rather than AI. By starting from the enormous amount of information available in documents and people's heads, the GB approach avoids the bottleneck of knowledge acquisition which has hampered AI. Moreover, the emphasis of GB research is on open, interactive, self-organizing systems, rather than on the closed, preprogrammed systems of traditional AI».

<sup>4</sup> NEW THOUGHT NETWORK (NTN), *Globalizing New Thought. The Internet as a New Thought Form* [This page was last [partially updated](#) on December 25, 2001], in «Internet» 2004, <http://www.newthought.net/globalizing.htm>: «The Internet functions as a simulated “the way it works” of human consciousness, empowering the synergetic coordination of the globally extended nervous system that results from our electronic “wiring” of the planet. Having interconnected the world's peoples and their diverse economic and political functions, humankind is now employing the Internet's technological simulation of consciousness to bring global coherence to humankind's social interactions by means of its emerging digital brain. As does the human brain, the Internet functions holographically because it is operationally a digital hologram. All of it is “here” at every point of access. Accordingly, what our digitized mind knows at any point may be known at all points. Via the Internet, any place in its cyberspace is at the same time everywhere in its cyberspace, and every place is likewise anywhere accessible. The Internet makes it possible for the all-of-us who know more than any of us to become a digital whole mind catalog, which we may consult on virtually any subject. As a global brain for the entire human species, the Internet is a means by which humankind's collective consciousness, including our “collective unconscious” (Carl Jung) and “race mind” (Ernest Holmes), is becoming self-conscious of the ways of its own workings in the evolution of consciousness overall. Within this conscious evolutionary process, a vigorous New Thought online community may function as a spiritually integrative node».

<sup>5</sup> S. Bullock – D. Cliff, *Science Review Summary: Complexity and Emergent Behaviour in ICT Systems*, in «Internet» 2005, [http://www.foresight.gov.uk/Intelligent\\_Infrastructure\\_Systems/Complexity\\_and\\_Emergent\\_Behaviour](http://www.foresight.gov.uk/Intelligent_Infrastructure_Systems/Complexity_and_Emergent_Behaviour) (pdf p. 7): «2.1 Plurality. The fact that there is little apparent consensus on definitions on complexity or emergence, and that different approaches are hotly debated and contested, is sometimes reflected poorly on the field. However, we might expect diverse communities to arrive at multiple definitions of concepts as wide reaching as these. The formulation of a single, tightly defined concept to replace the current plurality of ideas may simply not be possible or desirable. On the other hand, it might reasonably be expected that they share a “center of gravity” that can be explicated (with some effort). Increasing interdisciplinarity should accelerate this explication, as it exposes researchers to multiple approaches both current and historical, and discourages isolated activity. Indeed there is some evidence that recent treatments of complexity are more sophisticated in this respect, and more integrative as a result (Clark, 2001; Adami 2002)».

<sup>6</sup> ICT REGULATION TOOLKIT, *Virtual Organizations*, in «infoDev», in «Internet» 2008, <http://www.ictregulationtoolkit.org/en/Section.1509.html>: «The third wave of technologies builds on the technologies of the first and second waves and implements these technologies, broadly resulting in the use of ICT in other socio-economic sectors with decisive influence on efficiency and quality in the production processes. This is called “Information Society Technologies”. Examples on the deployment of ICT in private and public sectors include E-banking, E-health, E-government, E-learning and a range of other E-based processes/activities. These implementations are then likely to give rise to the further advanced development of infrastructure networks, including ubiquitous networks, the portable internet and the automated Internet of things, rather than people. Furthermore, many new technologies are expected to be smaller scale and cheaper to deploy, so this will change investment cycles and patterns. Smaller players will be able to enter markets and fuel network expansion with relatively small scale investments. The key elements of both the second wave and the third wave of technological changes thus impact the techno-policy environment. Pursuing the overall more multi-faceted and complicated objectives will, however, also influence the technological trends. This interrelationship implies that the overall problem area of regulation includes a list of parameters resulting in multi-dimensional success criteria, compared to the more simple success criteria of securing competition and universal service in the first bundle of reforms. This is not to argue that the first bundle of reforms has succeeded in introducing full competition as the general market structure. This is still an important issue in most markets, but the second and third wave of technology introduces new challenges that have to be addressed by regulators based on national policies for the development of ICT».

Mais ou melhor do que antes na Internet todos os setores multimédia se articulam para formar um sistema de vários e múltiplos impulsos<sup>1</sup>, inter-relação entre corpo e mente, entre ação e reflexão sob a forma de “sistema comunicativo”<sup>2</sup>. Há analogias entre o sistema nervoso e a construção cultural, a investigação na pesquisa “neuro-cultural”<sup>3</sup>, levando em conta os três níveis neurológicos – anatomia, sistema operativo, comportamento – que correspondem aos três círculos concêntricos culturais: a comunicação “multimedial”, a das instituições sociais, e a das produções artístico-estética<sup>4</sup>. A tentativa mental estudada no nível “neuro-cultural” introduz, além disso, três momentos de estimulação: percepção, memória, conceito<sup>5</sup>. A convergência tripartite se encontra nas chaves antropológicas fundamentais: razão (intelecto), ação, emoção. Desta “conectividade” múltipla atualmente – através da Internet – poderia, talvez, nascer um “cérebro global”<sup>6</sup>? Falar-se-á de “cérebro global” ou de “inteligente global”, com uma referência, principalmente, a “hardware” ou “software”, ou também reenviando à hipótese “Gaia” ou ao pensamento de Teilhard de Chardin. Nasceria, então, um “super organismo global”<sup>7</sup>? Vê-se atualmente na rede semântica e as suas metalinguagens a via de formação desta “inteligência global” através da interação dos

<sup>1</sup> M. McLuhan, *Understanding Media*, London 1964, pp. 368, 168.

<sup>2</sup> M. Boegner, *Cette presse malade d'elle-même*, Paris 1973, pp. 81, 80.

<sup>3</sup> D. De Kerckhove, *Introduction à la recherche neuroculturale*, in D. De Kerckhove-A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, p. 175: «La recherche neuroculturelle suit simultanément les deux orientations que son nom désigne, la voie neurologique et l'investigation culturelle. Sur le plan neurologique, il faut distinguer, comme le recommande Changeux, au moins trois niveaux d'analyse: «1) l'anatomie: le réseau de neurones, 2) l'activité: les trains d'influx nerveux qui circulent dans le réseau de neurones de manière spontanée ou évoqués à la suite d'une interaction avec l'environnement, et 3) le comportement: les actions de l'organisme sur l'environnement». Ce troisième niveau comprend aussi «les signaux que l'organisme reçoit par ses organes sensoriels». Pour inclure les correspondances avec les phénomènes culturels, en dépit des sens techniques que ces mots peuvent prendre ailleurs, je propose de répartir la matière selon quatre niveaux d'exploration: les ordres anatomique, physiologique, psychologique et culturel».

(<sup>1</sup> TLTA-278. A. Danchin présente cette tripartition en termes légèrement différents: «Pour décrire les capacités du système nerveux individuel, il est commode de distinguer trois niveaux: la structure du système, c'est-à-dire son organisation spatiale, avec les différents types de cellules et de connexions; sm fonctionnement, c'est-à-dire les règles qui définissent la production et l'intégration de l'activité électrochimique du réseau nerveux, et enfin son comportement, c'est-à-dire la façon dont un individu contrôle, à l'aide de son système nerveux, son interaction avec son environnement» (LaR-348).)

<sup>4</sup> D. De Kerckhove, *Introduction à la recherche neuroculturale*, in D. De Kerckhove-A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, p. 177: «Les indicateurs neuroculturels Pour le côté «culturel» de la recherche, le domaine complémentaire de ces interactions neurologiques est l'ensemble des formes culturelles, c'est-à-dire les extériorisations suscitées par les innovations bio-technologiques. Ici, comme dans l'ordre biologique, les formes foisonnent. Comment trouver un ordre de priorités, des cadres de référence dans ce chaos de signes? Le niveau neuro-cultuel privilégie trois champs d'investigation, les techniques de communication pour leurs effets neurophysiologiques, les institutions sociales pour identifier les modèles psychologiques, et enfin l'art et les productions esthétiques pour y trouver les signes les plus articulés des nouvelles configurations sensorielles engendrées par les technologies. C'est également dans les formes artistiques que s'expriment d'abord les crises que le choc des technologies nouvelles contre les anciennes suscite dans la culture».

<sup>5</sup> D. De Kerckhove, *Introduction à la recherche neuroculturale*, in D. De Kerckhove-A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, p. 167: «L'objet mental» écrit Changeux, «est identifié à l'état physique créé par l'entrée en activité (électrique et chimique), corrélée et transitoire, d'une large population ou «assemblée» de neurones distribués au niveau de plusieurs aires corticales définies » (HN 186). La configuration dessinée par l'ensemble des neurones mis en activité serait une sorte de «graphe neuronal». Changeux imagine trois types, ou plutôt trois variations de l'objet mental à partir d'une même parenté neurale. L'élément de base, le «bloc de construction» tiré de l'expérience immédiate de l'environnement est le percept. C'est un graphe neuronal qui est produit dans le cerveau par la corrélation sélective de stimulations extérieures. Plus autonome, l'image de mémoire diffère du percept en ce qu'elle est évoquée par un mécanisme interne de rappel (qui n'est pas encore identifié) et qu'elle n'affecte pas les aires corticales réservées aux stimulations externes. Enfin le concept est, pour ainsi dire, le «produit fini» du processus de fixation mentale, c'est un graphe neuronal qui est pratiquement dépouillé de ses références sensorielles, mais qui est enrichi par une très grande connectivité<sup>1</sup>».

(<sup>1</sup> Notons que ces trois termes sont eux-mêmes des «concepts opératoires» qui sont donnés rapidement à titre d'exemple pour faciliter la compréhension d'événements neurologiques d'une très grande complexité et capables de variations et de nuancements omeidérables.)

<sup>6</sup> N. F. McInnis, *THE FIRST INTERNATIONAL ELECTRONIC SEMINAR ON WHOLENESS, Time To Think The World Back Together*, in «Internet» 2004, [http://www.newciv.org/ISSS\\_Primer/seminar.html](http://www.newciv.org/ISSS_Primer/seminar.html): «It wasn't until 1977, upon discovering Science of Mind, that I found a more profound way of thinking about our interconnectivity. And it was yet six more years until I discovered a mindful theory of human interconnectivity while reading Peter Russell's book, The Global Brain. Observing that it takes the interconnectivity of 10 billion atoms to make a human cell, and of 10 billion human cells to make a human brain, Russell hypothesized that as we approach having 10 billion such brains on the planet, they will somehow interconnect to create a collective human consciousness. Earth's global body would thus acquire a global mind. A potential candidate for global-brain-like interconnectivity, the Internet, already existed in embryonic form when Russell's book was first written. Yet only today, with Internet activity increasing more rapidly than has any other technology in history, do we at last have a mass medium that reinforces the essence of our interconnectivity by empowering--as a consequence of linking--independently thoughtful minds».

<sup>7</sup> F. Heylighen, *The Global Brain FAQ* (Principia Cybernetica Web), in «Internet» 2004, <http://pespmc1.vub.ac.be/GBRAIFAQ.html>: «What is the global brain? The “global brain” is the name given to the emerging intelligent network formed by all people on this planet, together with the computers and communication links that connect them together. Like a real brain, this network is an immensely complex, self-organizing system, that processes information, makes decisions, solves problems, learns new connections and discovers new ideas. It plays the role of a collective nervous system for the whole of humanity. No person, organization or computer is in control of this system: its “thought” processes are distributed over all its components. What is the global superorganism? The metaphor of the information network as global brain can be extended to the whole of society as a global organism. If the information processes in the network constitute the “mind” of this system, all people together with their artefacts (tools, buildings, cars, etc.) form its “body”. Since individual people are organisms themselves, this encompassing system is an organism consisting of organisms, that is, a super-organism. The superorganism not only has a nervous system for processing information, but a metabolism for processing matter and energy: resources such as ores, water, oil are converted via various industrial processes into specialized goods and services, transported to the place where they are needed, used, and finally recycled or excreted as waste. Miller's “living systems theory” provides a detailed correspondence between the different subsystems of a society and those of an organism».

conceitos fora da integração direta na mente individual<sup>1</sup>. Neste ponto nasceria então uma dificuldade maior: de fato o cérebro é coordenado e coordenador enquanto a “rede” se apresenta nos anos 2000 como um aglomerado informativo ainda anárquico<sup>2</sup>. Fala-se de “tecnologias” semelhante ao modo de operar do cérebro para funcionar pela Internet. Chegar-se-ia a uma inteligência global ou comum, que, a diferença da inteligência artificial, não se referiria somente a um ser individual mas se desenvolveria completamente.<sup>3</sup> A antropologia “comunicacional” se confronta, a este ponto, com os novos tipos de pessoa humana nascida ou formada pelas dinâmicas “comunicacionais”, que sempre atraem principalmente a atenção dos observadores<sup>4</sup>. Prenuncia-se – talvez – o crepúsculo do “homo sapiens” (não tão sábio, talvez seria melhor chamá-lo “homo loquens”) para passar ao “homo comunicans” (igualmente muito pouco comunicativo?), que não poderá ser compreendido sem referência às dinâmicas informativas<sup>5</sup>. Aparecerá um outro tipo de “anthropos” ao mesmo tempo “pós-moderno” e alimentado de “ciber-organismo”<sup>6</sup>? A mutação da pessoa humana introduz necessariamente um tipo de relacionamento próprio com a “natureza” com os seus parâmetros não necessariamente lineares e imutáveis em relação ao contexto precedente da experiência humana. Dizia-se que a comunicação incidia como um sistema de múltiplos impulsos<sup>7</sup>:

<sup>1</sup> N. Spivack, *Minding the Planet: From Semantic Web to Global Mind*, (Draft 1.1 for Review (integrates some fixes from readers), (www.mindingtheplanet.net), in «Internet» 2006, [http://novaspivack.typepad.com/nova\\_spivacks\\_weblog/2004/06/minding\\_the\\_pla.html](http://novaspivack.typepad.com/nova_spivacks_weblog/2004/06/minding_the_pla.html): «The recently emerging Semantic Web adds yet another layer of sophistication beyond XML. It enables agents in the system to begin to understand and reason about the meaning of information within the system. The Semantic Web enables software to work not merely with data but with concepts. Concepts are information structures that are connected to formal systems of ideas – in other words they are meaningful information. The Semantic Web provides standards for transforming ordinary information structures into concepts that can be understood by software programs. Using metalanguages for defining semantics such as RDF and OWL, the Semantic Web makes it possible to connect data elements to concepts in formally defined systems of knowledge called ontologies. By doing this software programs are able to then reason intelligently about the information».

<sup>2</sup> F. Heylighen, *The Global Brain FAQ* (Principia Cybernetica Web), in «Internet» 2004, <http://pespmc1.vub.ac.be/GBRAIFAQ.html>: «To make the global information network function really at a higher level of intelligence, instead of merely storing and transmitting data, new technologies are needed. These technologies are inspired by our understanding of how the human brain works: how it learns associations, thinks, makes decisions, etc. At the same time, these technologies must take into account that the information on the net is not centrally controlled, but distributed over millions of people and documents, with billions of cross-connections. Thus, cognitive processes at the level of the GB must allow all this chaotic, heterogeneous information to interact so that collective patterns can appear. Some of the more traditional technologies include the various methods of keyword-based information retrieval. Others may use techniques derived from artificial intelligence, such as software agents, neural networks or data mining. Still others, such as collaborative filtering or groupware, enhance collective problem solving».

<sup>3</sup> F. Heylighen, *The Global Brain FAQ* (Principia Cybernetica Web), in «Internet» 2004, <http://pespmc1.vub.ac.be/GBRAIFAQ.html>: «Although many of the technologies supporting the global brain were first developed by Artificial Intelligence (AI) researchers, AI and GB research differ in several basic aspects. AI's goal is to create an independently intelligent system, whereas GB research tries to enhance existing individual and collective intelligence. This may be called IA, *intelligence amplification*, rather than AI. By starting from the enormous amount of information available in documents and people's heads, the GB approach avoids the bottleneck of knowledge acquisition which has hampered AI. Moreover, the emphasis of GB research is on open, interactive, self-organizing systems, rather than on the closed, preprogrammed systems of traditional AI».

<sup>4</sup> M.-Cl. Vetraino-Soulard, *Les moyens électroniques de communication et la transformation de la culture*, in D. De Kerckhove-A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, pp. 90-91.

<sup>5</sup> D. De Kerckhove, *Introduction à la recherche neuroculturale*, in D. De Kerckhove-A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, pp. 160-161: «Les modèles biologiques inspirés, par le «machinisme» au XVIII<sup>e</sup> siècle avaient, toutes proportions gardées, la simplicité relative du système musculaire par comparaison au système nerveux. Fondée sur le principe du levier et sur une causalité simple, la pensée mécaniste avait plus tôt fait de concevoir l'organisme comme une hiérarchie de rapports séquentiels que d'envisager le caractère déterminant des interactions entre l'environnement et l'homme. Pour passer des métaphores simplistes de l'«honune-machine» (et maintenant de l'«ordinateur-cerveau») à celles, bien plus exigeantes, de la biologie moléculaire, il faut faire un effort de recyclage mental où la perception du monde n'est plus fondée sur le paradigme de l'énergie, mais sur celui de l'information et «Energie et production ont tendance aujourd'hui à s'identifier à information et apprentissage. Désormais, la création des marchés et la consommation sont des formes d'apprentissage. C'est le résultat de l'implosion électrique qui fait suite aujourd'hui à des siècles de spécialisation et d'explosion mécaniques. Littéralement, l'ère électronique est celle de l'illumination. De la même façon que la lumière est à la fois énergie et information, l'automation électronique a reconfiguré production, consommation et apprentissage en un seul processus inextricable» (UM-304). A la vitesse de la lumière, les séquences mécaniques font place aux configurations. Seul le système nerveux est biologiquement à la mesure d'un monde gouverné par l'information».

<sup>6</sup> E. Ardevol, *Cyberculture: Anthropological perspectives of the Internet. Using anthropological theory to understand media forms and practices workshop Loughborough, 9th December, 2005*, in «Internet» 2006, [http://www.philbu.net/media-anthropology/lboro\\_ardevol.pdf](http://www.philbu.net/media-anthropology/lboro_ardevol.pdf): «During the 90ties and the beginning of the XXI century, Cyberculture was at the core of social studies about Internet, most of them assuming that a new cultural model was emerging from Internet use that would change patterns of social relation, self identity and community. Some researchers also thought that Internet would bring a new way of political practice and economic exchange; thus, Internet was seen as a new technology that will affect all spheres of our life. Internet has been seen as a technology that will bring a new era or that it is the maximum exponent of a new cultural order called Informational and Knowledge Society, Network Society -Manuel Castells- or Cyberculture -Pierre Levy, Arturo Escobar. People, societies and states that will not participate in that technological revolution will be excluded of progress. Therefore, digital divide is seen as the new social definitive division, more important than other unequal divisions such as rich and poor, developed or undeveloped countries. Going further, technoculture, the imbrications of technology in human interactions and in human body itself, related with cognitive sciences, biotechnologies and genetics science, will change our conceptions of nature as opposed to culture, creating a new anthropos or posthuman cyborg -Dona Haraway. David Hakken work *Cyborgs @ Cyberspace*, An Ethnograph her looks to the Future is a useful contrasting point here, because he remembers us that these kind of theorizations need an empirical background and are strongly related with evolutionist and neo-evolutionist theories in anthropology, and that there is an important field in anthropological work about technology innovation and culture change, such as Leslie White thesis, or recently, the social construction of technology theories of Bruno Latour and Wiebe Bijker, among others».

<sup>7</sup> N. George, *D'Einsteim à Teilhard*, Paris 1964, p. 191 : «Tout le reste, l'imprimerie, le télégraphe et le téléphone, la radio et la télévision, les réseaux routiers, les lignes maritimes, ferroviaires et aériennes, les liens économiques, culturels et politiques sont autant de fibres, de prolongements et de

um “sistema nervoso”<sup>1</sup>, conectividade não através da “célula” nervosa mas graças ao “contato” entre as células nas suas “multiconexões” relacionais<sup>2</sup>. Um elemento da dinâmica cerebral na gestão do saber, agir e sentir, parece ser a metodologia de associações mentais<sup>3</sup>. O modo de desenvolver esta “conectividade” surge do “processo circular” da faculdade intelectual do cérebro, mais do que do “processo linear” clássico<sup>4</sup>. Assim, os “mindmaps” potencializam esta interseção relacional de conectividade. Um novo tipo de pessoa humana nasce, os “pesquisadores da informação”, ou gente apaixonada por encontrar pontos de vista que ela ainda não conhece (mesmo que concorde com ela ou discorde dela)<sup>5</sup>. Entre a modalidade da conectividade da Internet, a possível manipulação do cérebro através de frequências não comumente recuperável é uma das incógnitas que se devem afrontar.<sup>6</sup> A que ponto isto permitiria condicionar o conhecimento e, a ação, a motivação emotiva

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neurones de l'immense système qui innervent la couche humaine répartie à la surface de la Terre et par lequel des impulsions psychiques peuvent se transmettre qui rendent solidaires les uns des autres chacune des «cellules» de la société».

<sup>1</sup> M. McLuhan, *Understanding Media*, London 1964, pp. 368, 168.

<sup>2</sup> D. De Kerckhove, *Introduction à la recherche neuroculturelle*, in D. De Kerckhove-A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, p. 164: «Il s'agit de la théorie de l'épigénèse. Comme l'explique Changeux, «La grande majorité des synapses du cortex cérébral se forment après la mise au monde de l'enfant. La poursuite, longtemps après la naissance, de la période de prolifération synaptique, permet une «imprégnation» progressive du tissu cérébral par l'environnement physique et social» (HN-320). Ce serait donc au niveau, non de la cellule nerveuse (le neurone), mais de ses «points de contact» (les synapses), dont le nombre peut atteindre 30.000 par cellule, que la rencontre avec l'environnement pourrait affecter l'organisation cérébrale. Il va sans dire qu'à ce niveau, l'articulation des nuances les plus subtiles, est au moins théoriquement possible».

<sup>3</sup> V. Bush, *As We May Think*, in J. Firmage, *Emergence of a Species Mind*, in «Library of Halexandria», in «Internet» 2006, <http://www.halexandria.org/dward027.htm>: «The real heart of the matter of selection, however, goes deeper than a lag in the adoption of mechanisms by libraries, or a lack of development of devices for their use. Our ineptitude in getting at the record is largely caused by the artificiality of systems of indexing. When data of any sort are placed in storage, they are filed alphabetically or numerically, and information is found (when it is) by tracing it down from subclass to subclass. It can be in only one place, unless duplicates are used; one has to have rules as to which path will locate it, and the rules are cumbersome. Having found one item, moreover, one has to emerge from the system and re-enter on a new path. The human mind does not work that way. It operates by association. With one item in its grasp, it snaps instantly to the next that is suggested by the association of thoughts, in accordance with intricate web of trails carried by the cells of the brain. It has other characteristics, of course; trails that are not frequently followed are prone to fade, items are not fully permanent, memory is transitory. Yet the speed of action, the intricacy of trails, the detail of mental pictures, is awe-inspiring beyond all else in nature. Man cannot hope fully to duplicate this mental process artificially, but he certainly ought to be able to learn from it. In minor ways he may even improve, for his records have relative permanency. The first idea, however, to be drawn from the analogy concerns selection. Selection by association, rather than indexing, may yet be mechanized. One cannot hope thus to equal the speed and flexibility with which the mind follows an associative trail, but it should be possible to beat the mind decisively in regard to the permanence and clarity of the items resurrected from storage».

<sup>4</sup> G. Johnson, *'Why do mind maps work?'*, (from of *Between Seeing - link to the innovation weblog*), in «Internet» 2006, <http://insight.org/blog/archives/category/an-eye-on-research/alternative-methods/>: «They work because the brain operates in circles. A simple way to think about this is to think of millions of bits of information in the brain flowing in circles. When two bits of information intersect an idea is formed. Mind maps facilitate the collection of those bits of information, where as creating linear lists forces the brain to work in a way that is not natural for it and consequently you don't get all of the information available to you. Makes perfect sense to me - that is indeed the way everything - processes and tools - we use for thought and communication work - the internet (in its right name the world wide web) is a series of loops of one thought or idea (in the form of a link leading to another). And that is what [blog conversations](#) are all about too - picking up one thread and building upon it elsewhere. This is what I feel about mind maps (and have said so in a comment on this post) - we have been conditioned to think linearly - in lists - whereas the natural way that thought flows is in circles. We all make mind maps every day without realizing it... linear thinking makes ideas unidimensional and restricted whereas “circular thinking” (for want of a better term) opens up new ideas and possibilities. Yet people hesitate to adopt - or even acknowledge - such thought processes as natural and effective. As Johnson has said in his post, most of us are trained to think 'straight' and with our left brains. Anything veering dangerously towards the right brain is suppressed, and even suspect (until of course one is universally recognized as a creative - if eccentric - genius!)».

<sup>5</sup> S. H. Chaffee, *Mass Media and Interpersonal Channels: Competitive, Convergent, or Complementary*, in G. Gumpert – R. Cathcart, *Inter / Media*, Oxford 1982, p. 70: «Seekers of information (and opinion), on the other hand, appear to be quite different from other people. An extensive review of studies of exposure to information 62 found that people tend to seek out viewpoints they have not yet heard -whether they agree with the opinions expressed or not- when those viewpoints would be useful to know about. Other strong predictors of voluntary exposure to information are education (and correlated social class), and a previous history of exposure to the same topic. Taking these characteristics as a group produce a sensible generalization: potentially useful information is most likely to be sought by a person who knows enough (about the subject) to recognize deficiencies in his knowledge».

<sup>6</sup> J. Wall, *Mind Control with Silent Sounds and Super Computers*, in «Internet» 2004, <http://spaces.msn.com/members/millshan/Blog/cns!1pthfbu1rLVIsBWvJJOoPFXQ!214.entry>: «The mind-altering mechanism is based on a subliminal carrier technology: the Silent Sound Spread Spectrum (SSSS), sometimes called "S-squad" or "Squad". It was developed by Dr Oliver Lowery of Norcross, Georgia, and is described in US Patent #5,159,703, "Silent Subliminal Presentation System", dated October 27, 1992. The abstract for the patent reads: "A silent communications system in which nonaural carriers, in the very low or very high audio-frequency range or in the adjacent ultrasonic frequency spectrum are amplitude- or frequency-modulated with the desired intelligence and propagated acoustically or vibrationally, for inducement into the brain, typically through the use of loudspeakers, earphones, or piezoelectric transducers. The modulated carriers may be transmitted directly in real time or may be conveniently recorded and stored on mechanical, magnetic, or optical media for delayed or repeated transmission to the listener." According to literature by Silent Sounds, Inc., it is now possible, using supercomputers, to analyse human emotional EEG patterns and replicate them, then store these "emotion signature clusters" on another computer and, at will, "silently induce and change the emotional state in a human being". Silent Sounds, Inc. states that it is interested only in positive emotions, but the military is not so limited. That this is a US Department of Defense project is obvious. Edward Tilton, President of Silent Sounds, Inc., says this about S-squad in a letter dated December 13, 1996: "All schematics, however, have been classified by the US Government and we are not allowed to reveal the exact details... .. we make tapes and CDs for the German Government, even the former Soviet Union countries! All with the permission of the US State Department, of course... The system was used throughout Operation Desert Storm (Iraq) quite successfully." The graphic illustration, "Induced Alpha to Theta Biofeedback Cluster Movement", which accompanies the literature, is labelled #AB 116-394-95 UNCLASSIFIED" and is an output from "the world's most versatile and most sensitive electroencephalograph (EEG) machine". It has a gain capability of 200,000, as compared to other EEG machines in use which have gain capability of approximately 50,000. It is software-driven by the "fastest of computers" using a noisenulling technology similar to that used by nuclear submarines for detecting small objects underwater at

das pessoas? A tecnologia “internetiana” verá nascer “cérebros centrais” em que encontrará todo software necessário sem precisar comprar ou descarregar sobre o aparelho mais modesto e individual, conseguindo sempre o tratamento informático adequado para um pesquisa de dados<sup>1</sup>. Prevê-se que os motores de pesquisa serão substituídos por “estruturas de saber” com “pesquisa inteligente” e de auto-aprendizagem das necessidades do usuário<sup>2</sup>. Lá onde a informação escrita podia ser transmitida sem intervenção direta da mente humana, a metalinguagem semântica permitirá fazer circular “inteligência” sem direta referência à mente<sup>3</sup>. Os elementos do saber codificado (chamados ‘memes’) se “auto articularam” com a inteligência capaz de desenvolver fora da integração direta com a mente individual<sup>4</sup>. Mas, segundo observadores, a configuração atual da rede impede esta perspectiva semântica avançada.<sup>5</sup> Fala-se também da Internet como uma espécie de “cérebro planetário” (extensão do sistema nervoso, à MacLuhan) em via de configuração<sup>6</sup>. Mas

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extreme range. The purpose of all this high technology is to plot and display a moving cluster of periodic brainwave signals. The illustration shows an EEG display from a single individual, taken of left and right hemispheres simultaneously. The readout from the two sides of the brain appear to be quite different, but in fact are the same (discounting normal left/right brain variations)».

<sup>1</sup> S. Vaknin, *Internet: A Medium or a Message? Essays regarding the Internet, E-Commerce, E-Publishing, and Information Technology (IT)*, in «Internet» 2006, <http://samvak.tripod.com/internet.html>: «Future servers will contain not only information (as they do today) - but also software applications. The user of an application will not be forced to buy it. He will not be driven into hardware-related expenditures to accommodate the ever growing size of applications. He will not find himself wasting his scarce memory and computing resources on passive storage. Instead, he will use a browser to call a central computer. This computer will contain the needed software, broken to its elements (=applets, small applications). Anytime the user wishes to use one of the functions of the application, he will siphon it off the central computer. When finished - he will "return" it. Processing speeds and response times will be such that the user will not feel at all that it is not with his own software that he is working (the question of ownership will be very blurred in such a world). This technology is available and it provoked a heated debated about the future shape of the computing industry as a whole (desktops - really power packs - or network computers, a little more than dumb terminals). Applications are already offered to corporate users by ASPs (Application Service Providers). In the last few years, scientists put the combined power of the computers linked to the internet at any given moment to perform astounding feats of distributed parallel processing. Millions of PCs connected to the net co-process signals from outer space, meteorological data and solve complex equations. This is a prime example of a collective brain in action».

<sup>2</sup> S. Vaknin, *Internet: A Medium or a Message? Essays regarding the Internet, E-Commerce, E-Publishing, and Information Technology (IT)*, in «Internet» 2006, <http://samvak.tripod.com/internet.html>: «The Web houses the equivalent of 100 billion pages. Search Engine applications are used to locate specific information in this impressive, constantly proliferating library. They will be replaced, in the near future, by "Knowledge Structures" - gigantic encyclopaedias, whose text will contain references (hyperlinks) to other, relevant, sites. The far future will witness the emergence of the "Intelligent Archives" and the "Personal Newspapers" (read further for detailed explanations). Some software applications will summarize content, others will index and automatically reference and hyperlink texts (virtual bibliographies). An average user will have an on-going interest in 500 sites. Special software will be needed to manage address books ("bookmarks", "favourites") and contents ("Intelligent Addressbooks"). The phenomenon of search engines dedicated to search a number of search engines simultaneously will grow ("Hyper- or meta- engines"). Meta-engines will work in the background and download hyperlinks and advertising (the latter is essential to secure the financial interest of site developers and owners). Statistical software which tracks ("how long was what done"), monitors ("what did they do while in the site") and counts ("how many") visitors to sites already exists. Some of these applications have back-office facilities (accounting, follow-up, collections, even tele-marketing). They all provide time trails and some allow for auditing».

<sup>3</sup> N. Spivack, *Minding the Planet: From Semantic Web to Global Mind*, (Draft 1.1 for Review (integrates some fixes from readers), ([www.mindingtheplanet.net](http://www.mindingtheplanet.net)), in «Internet» 2006, [http://novaspivack.typepad.com/nova\\_spivacks\\_weblog/2004/06/minding\\_the\\_pla.html](http://novaspivack.typepad.com/nova_spivacks_weblog/2004/06/minding_the_pla.html): «In other words, whereas basic written languages simply make raw information portable, semantic metalanguages make *knowledge* (conceptual systems) and even *intelligence* (procedures for processing knowledge) about information portable. They make it possible for knowledge and intelligence to be formally expressed, stored digitally, and shared independently of any particular minds or programs. This radically changes the economics of communicating knowledge and of accessing and training intelligence. It makes it possible for intelligence to be more quickly, easily and broadly distributed across time, space and populations of not only humans but also of software programs. The emergence of standards for sharing semantic metalanguage statements that encode the meaning of information will catalyze a new era of distributed knowledge and intelligence on the Internet. This will effectively "make the Internet smarter." Not just monolithic expert systems and complex neural networks, but even simple desktop programs and online software agents will begin to have access to a vast decentralized reserve of knowledge and intelligence».

<sup>4</sup> N. Spivack, *Minding the Planet: From Semantic Web to Global Mind*, (Draft 1.1 for Review (integrates some fixes from readers), ([www.mindingtheplanet.net](http://www.mindingtheplanet.net)), in «Internet» 2006, [http://novaspivack.typepad.com/nova\\_spivacks\\_weblog/2004/06/minding\\_the\\_pla.html](http://novaspivack.typepad.com/nova_spivacks_weblog/2004/06/minding_the_pla.html): «MEMES ARE EVOLVING MINDS OF THEIR OWN. The evolution of our planetary intelligence has been taking place for billions of years -- it is a natural process, just like the evolution of human intelligence was long ago. The Semantic Web is merely the next step in this process whereby communicable ideas (memes), having already evolved technologies to externalize themselves outside the human mind (i.e. books, recording, software, the Web, etc.) are starting to evolve the ability to propagate intelligently and interact without human intervention. In other words, although today memes are for the most part completely immobile and static unless perceived within a human brain, with the advent of the Semantic Web the cognitive processes for running memes will begin to spread outside the human brain, enabling memes to "run" without depending on humans. This emerging planet-wide collective mind, of which we will be but parts, will evolve higher level meta-processes and structures that will vastly exceed our comprehension. Indeed this is already starting to happen -- even today the self-organizing, chaotically emergent collective intelligence and information flows of the Internet exceed the power and understanding of any computer or brain on the planet. This new meta-level intelligence will be as far beyond human intelligence as the intelligence of the human brain is beyond that of its individual neurons».

<sup>5</sup> D. Talbot, *The Internet Is Broken -- Part 2. We can't keep patching the Internet's security holes. Now computer scientists are proposing an entirely new architecture*, in «Internet» 2006, [http://www.technologyreview.com/InfoTech-Networks/wtr\\_16051,258,p1.html](http://www.technologyreview.com/InfoTech-Networks/wtr_16051,258,p1.html) (p. 2): «The existing Internet architecture also stands in the way of new technologies. Networks of intelligent sensors that collectively monitor and interpret things like factory conditions, the weather, or video images could change computing as much as cheap PCs did 20 years ago. But they have entirely different communication requirements. "Future networks aren't going to be PCs docking to mainframes. It's going to be about some car contacting the car next to it. All of this is happening in an embedded context. Everything is machine to machine rather than people to people," says Dipankar Raychaudhuri, director of the Wireless Information Network Laboratory (Winlab) at Rutgers University».

<sup>6</sup> NEW THOUGHT NETWORK (NTN), *Globalizing New Thought. The Internet as a New Thought Form* [This page was last [partially updated](#) on December 25, 2001], in «Internet» 2004, <http://www.newthought.net/globalizing.htm>: «The Internet functions as a simulated "the way it works" of human consciousness, empowering the synergetic coordination of the globally extended nervous system that results from our electronic "wiring" of

então, da sua extensão a rede se auto-concentraria numa capacidade de “hiper-cérebro” pan-humano? Caminhamos em direção a uma outra implosão? Diz-se que a rede poderia servir como um cérebro não só “multi-humano” mas também para a terra, respondendo assim uma expectativa da simbologia ligada ao conceito de “Gaia”<sup>1</sup>.

### *A problemática cultural*

A nova comunicação poderia incidir sobre o ambiente inter-cultural, ou seja, sobre o modo de apresentar as chaves da interculturalidade nas distintas culturas “contextualmente” altas e culturas “contextualmente” baixas em que a definição alta indica a maior especificação contextual de uma dada convivência enquanto a baixa seria menos específica como se verifica na comunicação a distância da rede<sup>2</sup>.

## 2° A NOVA COMUNICAÇÃO COMO MEDIADORA DA EXPERIÊNCIA HUMANA ULTERIORMENTE INCENTIVADA



Se a comunicação “multimedial” é um ‘tudo’ ou se a experiência humana é geralmente na sua fonte ‘comunicação “multimedial”, qual será a relevância e a consistência da “medialidade” que atinge a atenção dos observador, operadores ou estudiosos do fenômeno? Um primeiro dado resumido poderia ser sugerido pela incidência e pela tentativa que transparece nas novas descobertas e os novos achado da instrumentalidade mediática sempre mais avançada: os vários passos que se cumprem vão principalmente em direção de “zerar a distância” na interatividade da nova comunicação, superando assim a objeção de quem pensa que a distância e o contato indireto impede a autêntica “criação de comunidade”. Obviamente, a “medialidade” permanece essencial para poder chegar a esta superação. Duas visões se confrontam: para a primeira a nova comunicação

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the planet. Having interconnected the world's peoples and their diverse economic and political functions, humankind is now employing the Internet's technological simulation of consciousness to bring global coherence to humankind's social interactions by means of its emerging digital brain. As does the human brain, the Internet functions holographically because it is operationally a digital hologram. All of it is "here" at every point of access. Accordingly, what our digitized mind knows at any point may be known at all points. Via the Internet, any place in its cyberspace is at the same time everywhere in its cyberspace, and every place is likewise anywhere accessible. The Internet makes it possible for the all-of-us who know more than any of us to become a digital whole mind catalog, which we may consult on virtually any subject. As a global brain for the entire human species, the Internet is a means by which humankind's collective consciousness, including our "collective unconscious" (Carl Jung) and "race mind" (Ernest Holmes), is becoming self-conscious of the ways of its own workings in the evolution of consciousness overall. Within this conscious evolutionary process, a vigorous New Thought online community may function as a spiritually integrative node».

<sup>1</sup> F. Heylighen, *The Global Brain FAQ* (Principia Cybernetica Web), in «Internet» 2004, <http://pespmc1.vub.ac.be/GBRAIFAQ.html>: «Gaia (the Greek goddess of the Earth) is the name given to the hypothesis that the planet Earth itself is a living organism. This organism would be able to regulate its own essential variables, such as temperature and composition of the atmosphere. Compared to the superorganism as we have defined it, this "Gaian" organism seems very primitive, with a level of intelligence comparable perhaps to the one of a bacterium. At present, Gaia and the global superorganism are still largely independent, and the effect of society on the global ecosystem appears unsustainable. However, several authors have argued that Gaia and the superorganism will evolve to a state of symbiosis, that may eventually lead to a merging of the two. Thus, the GB would not only form a brain for humanity, but for the whole of Planet Earth».

<sup>2</sup> R. Kluver, *Globalization, Informatization, and Intercultural Communication*, in «Internet» 2007, <http://www.acjournal.org/holdings/vol13/Iss3/spec1/kluver.htm>: «This issue could significantly affect how intercultural communication is taught. Some of the key concepts associated with intercultural communication, such as the distinction between high and low context cultures, are problematic when applied to new communication contexts. Since high context cultures are those where there is a greater social knowledge, and communication is typically less explicit, can persons from a high context background rely on the same subtle nonverbal cues and situational variables when using the internet or email, for example? How is high context culture messaging transformed when there is an absence of nonverbal cues, environmental and situational variables, and at best imprecise manifestations of status and hierarchy? Does this force high-context communication to become low context? Is communication across cultures made easier across technological channels, since the ever troublesome nonverbal cues that complicate much interpersonal intercultural communication lose their importance? What new nonverbal cues arise in electronic communication? What constitutes communication competence in the new context? The number of issues associated with this line of inquiry is endless, and could radically alter how we think about, and teach, intercultural communication skills and theory».

trará uma ulterior 'livre comunicação', para a segunda vamos em direção a uma renovada dependência e marginalização de quem não terá acesso a ela<sup>1</sup>.

### *O inevitável aspecto e condicionamento instrumental e tecnológico na perspectiva antropológica*

Antes de tudo nos perguntamos qual seria o significado dos últimos achados e das mais recentes descobertas na Internet. A questão que permanece aberta, como para toda "multimedialidade" se refere ao impacto de Internet sobre a pessoa humana<sup>2</sup>. Aqui também passa-se de uma posição que considera os multimédia somente com "meios", "instrumentos" e "máquinas técnicas" a uma posição que exalta o "progresso tecnológico" como tal, mesmo se os especialistas mostram-se mais prudentes ao considerar a tecnologia como uma espécie de "religião" ou de tratar como "devoção religiosa"<sup>3</sup>. Nota-se uma apatia inicial difusa em relação ao envolvimento pleno na rede (como se notou mais de uma vez com a aparição das novas potencialidade ou plataformas "multimediais") até pelos necessários conhecimentos e habilidades práticas a conquistar para entrar no cenário cibernético<sup>4</sup>. Se se quisesse caracterizar a especificidade da Internet, poder-se-ia dizer

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<sup>1</sup> C. Cupitt, *Changing Communication Technology: Evolution or Revolution?*, in «Internet» 2007, <http://www.geocities.com/Area51/Hollow/2405/information.html>: «The optimists say that this change will bring freedom - that we are on the verge of a new era of personal freedom. That these communication technologies will allow learning, communicating, and working to be undertaken at the pace of the user, in the style the user prefers, and on aspects the user finds most interesting, rather than in the homogeneous, undifferentiated processes used by a print culture. The pessimists suggest a different, much bleaker future, in which a new power elite will emerge, and a new class of the information poor. They argue that until there is equal access to this technology, the utopian vision of the empowered individual is a long way off. As David Trend points out, "we should not delude ourselves that these new technologies by themselves are capable of changing social relationships or economic structures" (1). After all, a new information driven culture will be built on the foundation of capitalism and science, and all of their respective inequitable baggage».

(1) David Trend, "What's in a name? National Identity and Media Literacy," *In Theory: Reading Theory Reader* (Nedlands, Western Australia: English Department, University of Western Australia, 1996), p.349.)

<sup>2</sup> PONTIFICAL COUNCIL FOR SOCIAL COMMUNICATIONS, *Ethics in Internet*, in «Internet» 2002, [http://www.vatican.va/roman\\_curia/pontifical\\_councils/pccs/documents/rc\\_pc\\_pccs\\_doc\\_20020228\\_ethics-internet\\_en.html](http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_20020228_ethics-internet_en.html): «3. As with other media, the person and the community of persons are central to ethical evaluation of the Internet. In regard to the message communicated, the process of communicating, and structural and systemic issues in communication, "the fundamental ethical principle is this: The human person and the human community are the end and measure of the use of the media of social communication; communication should be by persons to persons for the integral development of persons" (1)».

(1) Cf. PONTIFICAL COUNCIL FOR SOCIAL COMMUNICATIONS, *Ethics in Communications*, n. 21.)

<sup>3</sup> Cr. Scott, *The Challengers*, in AA. VV., *Essays. The Information Age*, in «Internet» 2002, <http://www.ac.wvu.edu/~n9443139/Ellul3.html>: «Not everyone shared the rosy view of this technological future. Two main figures rose to challenge the path humanity is paving for itself. Jacques Ellul, a former professor at the University of Bordeaux, and Neil Postman, the head of Culture and Communications at New York University, both warned against an overreliance upon information and the technology to bring it to the masses. Ellul, a Christian, warned that technology was becoming a religion unto itself. People are blindly accepting technology; indeed, Ellul said, technology was now what humanity holds sacred.1 In doing so, humans are making themselves slaves to it: the controllers are themselves becoming controlled by their creations. Technology is becoming a defining force for the ensuing social order, wherein efficiency is no longer an option but a necessity. Humans have begun to seek always the most perfect solution, he said, and thus are allowing technology -- efficient by definition -- to think for them. Postman agrees that technology cannot -- and should not -- replace human values. Thinking should always be done by humans, they said, and that is exactly what is being left behind as mankind strolls down Vice President Al Gore's information superhighway. Ellul observed younger generations being trained to use computers, yet never trained in the thinking behind the computers. Postman said computers actually stifle creativity; they haven't produced any great social, political or religious thought on par with the printing press. Indeed, Postman said, "we may well wonder what other human skills and traditions are being lost by our immersion in a computer culture."2 Not only do computers rob us of jobs formerly held by humans, but computers can actually rob humans of basic math skills. This overreliance on technology to think for us can create a new form of red tape. In his book, *Technopoly: The Surrender of Culture to Technology*, Postman describes how doctors now perform sometimes unnecessary tests to avoid malpractice suits. This causes doctors to lose their ability to conduct skillful examinations and rely more on machinery than their own experience and insight.3 Ellul agreed that technology has begun to diminish the value of humans. When the machines are trusted more than the opinion of a well-trained doctor, the role of the doctor shifts from that of a diagnostic to an intermediary between patient and machine. While machines and technology were created to better human life, overreliance is against Christian theology, he said. "Whereas technology is the attempt of human beings to create their home in this world, the Bible denies that they are truly at home here."4 Or less theologically, technology reduces the need for people to think."We have reduced our role to that of a spectator whose task is not to understand or interpret but to observe. This point is greatly supported by Postman, a noted media critic. He says the growth of technology is merging technology and entertainment to the point where younger generations almost expect the two to go hand in hand; he cites Sesame Street as an example of this "infotainment."5 For adults, TV news -- the largest purveyor of information for most First World adults thanks to the ubiquitousness of TV technology - removes the context of events and thus creates a belief that no matter how bad an event is, it will soon be forgotten and replaced by a happy commercial.6 The attention span of the TV culture has decreased drastically since the times of the Lincoln-Douglass Debates, wherein ordinary people sat enthralled by the talks for some seven hours».

(1 "[Jacques Ellul \(1912-1994\)](#)" Dec. 25, 1995. / 2 Yeap. Class notes. January 1998. Address Pending. / 3 Stewart, Mary Beth. [Review of Neil Postman's Technopoly](#) March 6, 1997. / 4 "[Jacques Ellul \(1912-1994\)](#)" / 5 Pieprzak, Jody Kay. "[Amusing Ourselves to Death \( review\).](#)" April 3, 1997. / 6 "[Prelude to Vegas: Neil Postman gets interviewed.](#)" Aug. 29, 1997.)

<sup>4</sup> B. Schwimmer, *Anthropology on the Internet*, in «Current Anthropology», Volume 37, Number 3, June 1996, pp. 566-567, etiam in «Internet» 2006, <http://www.journals.uchicago.edu/CA/articles/prospects.html>: «The most obvious barrier to the development of computer based scholarship is of course the reluctance or inability of anthropologists to learn to use and develop this new technology. Although most academics now own computers and have come to find them indispensable for their writing, actual use is limited to a few applications which take little advantage of the technology's full potential (Bernard and Evans 1987). Computer use has been restricted to word-processing and statistical analysis. Exploration on the network, which can require arcane knowledge of e-mail keystrokes or UNIX commands, is approached with extreme caution. Experimentation is resisted not only because of the time and effort required but also by phobias that, surprisingly, affect academics to the same extent as everyone else. These problems are compounded by the current pace of technological change, which promises that by the time new hardware, software, or skills have been

que isso significa a compenetração da experiência humana entre “online” e “offline” (na linguagem atual, ou – isto é - ‘em linha a distância’ ou inter-pessoal <sup>1</sup>, dissolvendo o “vaso estagnado” do “virtual” fechado sobre si mesmo e voltado para o âmbito “irreal” <sup>2</sup>. Os prognósticos sobre a incidência da Internet se orientam em três direções: ou uma restrição do uso a certa elite, ou um desaparecimento das barreiras através da difusão, ou um caos seja de acesso ou de qualidade nas trocas e na pesquisa<sup>3</sup>.

*As novas tecnologias da informação e da comunicação na rede. A ICT o TIC (ou previamente chamada NTIC ou NICT)*

Se chamamos “novas tecnologias” as que são tecnologias genérica da informação e da comunicação, ao lado da “nanotecnologia” e as “biotecnologias”, que tratam sobre tudo da potencialidade das comercializações e de estruturas operativas (“virtual”)<sup>4</sup>. Um primeiro aspecto em via de atuação: com a miniaturização se estende a velocidade da conectividade a distância: computadores e uma Internet a média velocidade e a altíssima velocidade <sup>5</sup>. As fronteiras de espaço-tempo desvanecem. Mas surgem também uma consciência sempre mais aguda: não se poderá

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acquired they will already have become obsolete. General problems of apathy and inertia are reinforced by the demographic structure of academia. Departments are dominated by faculty over 50 who see little advantage to making innovations in their final years of employment. Unfortunately, a diminishing job market has limited the entry of younger scholars, and those who do gain employment are too concerned about job security to deviate from the established paths of academic publication and success».

<sup>1</sup> E. Ardevol, *Cyberculture: Anthropological perspectives of the Internet. Using anthropological theory to understand media forms and practices workshop Loughborough, 9th December, 2005*, in «Internet» 2006, [http://www.philbu.net/media-anthropology/lboro\\_ardevol.pdf](http://www.philbu.net/media-anthropology/lboro_ardevol.pdf): «The counter part of these positions, most of which view Internet cultures as new cultural forms that elude offline social and cultural categories, allowing more democratic and collaborative models of social interaction in metaphysical communities, was the ethnographic work of Daniel Miller and Don S later, which situated online practices in relation with people daily life in a concrete cultural context. People construct online collective identities, but these online interactions could not be understood only in terms of a specific disembodied "virtual" culture. In fact, they said, these online groups only make sense in relation to offline social, political and cultural contexts. Breaking with the online/offline, real/virtual dichotomies was very useful to begin to understand online interaction as a part of daily life activities, as a social practice».

<sup>2</sup> Vedere come il documento del Pontificio Consiglio delle comunicazioni sociali situa il virtuale nella sua caratteristica di possibile danno per la persona individuale: PONTIFICAL COUNCIL FOR SOCIAL COMMUNICATIONS, *Ethics in Internet*, in «Internet» 2002, [http://www.vatican.va/roman\\_curia/pontifical\\_councils/pccs/documents/rc\\_pc\\_pccs\\_doc\\_20020228\\_ethics-internet\\_en.html](http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_20020228_ethics-internet_en.html): «13. The medium's implications for psychological development and health likewise need continued study, including the possibility that prolonged immersion in the virtual world of cyberspace may be damaging to some. Although there are many advantages in the capacity technology gives people to “assemble packages of information and services uniquely designed for them”, this also “raises an inescapable question: Will the audience of the future be a multitude of audiences of one?...What would become of solidarity—what would become of love—in a world like that?” (1)».

(1) Ethics in Communications, n. 29.)

<sup>3</sup> B. Schwimmer, *Anthropology on the Internet*, in «Current Anthropology», Volume 37, Number 3, June 1996, p. 567, etiam in «Internet» 2006, <http://www.journals.uchicago.edu/CA/articles/prospects.html>: «Contemporary anthropologists are now in the interesting position of experiencing, observing, and perhaps controlling a problem they have often attempted to understand -- technological change. The observations in this essay suggest that Internet expansion will not have a predetermined or straightforward effect on the social order and cultural values of academia. Three models of equal probability can be envisioned. One predicts a narrowing of opportunity and enhanced control by cultural and social elites as increasing costs and withdrawal of government support restrict opportunities for acquiring the necessary technology and information resources. A second promises an evaporation of traditional academic barriers and structures and the emergence of a new order marked by collaborative research and altruistic sharing of knowledge and benefits among all components of the scholarly community. The third warns of a chaotic system in which scholarship is trivialized by the disintegration of regulation and standards. At this point we can do more than passively observe the interaction of technological, cultural, and social forces within our own community. We can begin to appreciate the importance and power of the new forms of scholarship that are emerging, think about how we can use new technologies to construct intellectual and social objectives for our discipline, and create the necessary mechanisms and standards for realizing them».

<sup>4</sup> ICT REGULATION TOOLKIT, *Virtual Organizations*, in «infoDev», in «Internet» 2008, <http://www.ictregulationtoolkit.org/en/Section.2431.html>: This very broad approach to promoting the benefits of ICTs can be seen as an illustration of the idea behind the concept of the “Third Wave”: ICTs basically have qualities as one of the emerging generic technologies, the others being biotechnology and nano-technology. There are two main dimensions in the generic aspect of the ICTs: One is related to the effects on the potential commercialization of services, and the other to the effects on the internal structures of companies and associated transaction costs, often discussed as “virtual organizations”».

<sup>5</sup> ADVISORY GROUP TO THE EUROPEAN COMMISSION, *The Future of the Internet - What Role for Europe? Interim Report of an Advisory Group*, <http://www.cordis.lu/esprit/src/i2eurepo.htm>: «Twin development pushes - High-performance Internet and Commodity Internet. The history of computing, and indeed of many other high-tech industries, has highlighted developments in two complementary directions. Computer vendors have always used technology advances both to reduce the cost of computers for constant performance, and to increase the performance available at constant price. The Internet is now showing a very similar behaviour. Supplying access for the general public to the “Commodity Internet” from their homes is obviously a very price-sensitive business, and today depends heavily on telephone or cable TV modems, which tend to have rather limited performance, but the size of the potential market is huge. On the other hand, universities and leading research institutes and companies have a real need to exploit the very highest-performance networking, as a way forward in fields such as distance learning, remote diagnosis, distributed collaborative engineering projects, and remote access to huge distributed databases. The past two years have shown that these twin pushes, towards the commodity Internet and towards a high-performance academic and research Internet, do not automatically fit together in an easy way. Specifically, the way in which bulk personal e-mail and Web-access traffic interferes with high-performance traffic, and especially with the real-time requirements of graphics and audio traffic, as all packets come together and flow across the major Internet switches and backbone lines, has led to significant congestion. Some of the recent American initiatives, and specifically the Internet2 initiative from the universities, emphasise the need now to separate out these traffic flows, and to develop better technical and commercial models for how Internet growth can be funded».

confiar em um serviço futuro mas também para aceder aos serviços de gestão posto à disposição dos governos sem um adestramento nos ICT <sup>1</sup>.

### *A incidência antropológica*

Se sabe que a introdução da comunicação multimédia a distância no âmbito da pesquisa antropológica foi julgada às vezes como “reducionismo tecnológico”, também é, sem dúvida, inegável o impacto das tecnologias – particularmente das tecnologias da informação (IT) – sobre a pessoa e sobre a comunidade humana, ou melhor, sobre a experiência humana em geral <sup>2</sup>. Mas há também as tecnologias que se diferenciam entre a conectividade “internetiana” e a relação entre pessoa humana e o seu ambiente natural ou entre os seres humanos: o melhor exemplo é da “contaminação” por vírus biológicos ou analogamente por vírus informáticos, que se reproduzem e se “auto-clonam” <sup>3</sup>. Todavia nasce – apesar da relutância de alguns – uma “ciber-etnografia” baseada sobre a pesquisa diversificada em âmbitos a explorar <sup>4</sup>. Fala-se também de “netnografia” <sup>1</sup>.

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<sup>1</sup> A. Clarke, *Knowledge Base. What is ICT Skill for Life?*, in «ICT Coach. The ICT skills for Life Community», in «Internet» 2008, [http://www.bbc.co.uk/ictcoach/kb/alanclarke\\_print.shtml](http://www.bbc.co.uk/ictcoach/kb/alanclarke_print.shtml): «The need for ICT. 'Skill for Life' is essentially the modern term for basic skills; that is, the skills that people need in order not to be seriously disadvantaged in their economic and social lives. Adults without ICT skills are going to have more difficulty getting employment, gaining promotion or even retaining their jobs. In their social lives they will be increasingly distanced from the many benefits, large and small, that come with being comfortable with technology. They will be unable to access government services which are increasingly online, to help their children's education through ICT or simply to buy their groceries at a distance. A national survey by the DFES in 2003 showed that 53% of adults have very limited ICT practical skills indicating the scale of the task facing the new initiative. The Qualification and Curriculum Authority (QCA) has developed the ICT Skill for Life standard which defines the essential skills that you need to play an active part in society. It is based on the National Occupational Standard for users of ICT. The standard is presented in five levels from entry level 1, 2 and 3 to levels 1 and 2. A copy of the standard can be downloaded from the [QCA website](#). It is accompanied by guidance which provides a range of examples of what people should be able to achieve through its use. The standard places an emphasis on learning in a purposeful way, with learners assisted to develop their skills and knowledge in a context that meets their needs. If they want to attain a new job, help their children study or be active citizens, then their education or training should focus on this need».

<sup>2</sup> G. Houtman – D. Zeitlyn, *Information technology and anthropology*, in «Anthropology Today», Vol. 12, No. 3, June 1996, p. 1, etiam in «Internet» 2006, <http://www.therai.org.uk/pubs/at/editorial/zhouman.html>: «Guest editorial from *Anthropology Today*, Vol. 12, No. 3, June 1996, pp. 1-3 To suggest that information technology (IT) – the branch of technology concerned with the dissemination, processing, and storage of information, especially by means of computers – might yet significantly shape the discipline attracts the accusation of technological reductionism. MacLuhan may be regarded, in today's language, as something of a 'Nerd'. (1) Yet print-technology permitted the emergence of new religions and new scientific disciplines. Evidently, the more technology is integrated into everyday life, the less we seem to be paying attention to it for there are hardly any contemporary studies of the social and cultural effects of the technology of print. (2) There is considerable literature on particular roles for IT in anthropology, but very little of it focuses on the broad implications for the discipline. IT is making its impact felt on anthropology as a discipline at several different – but mutually dependent – levels. Apart from having become something of a sub-discipline in itself – e.g. as in the anthropology of cyberspace (Escobar 1994) – here we identify its impact on the discipline more broadly in terms of data, methodology, and subject-matter. The way we acquire, record, transmit and publish data has changed enormously over the last decade. This parallels the involvement of photography and film in the discipline in the early 1960s, and Polunin's summary of the state of visual anthropology in 1970 could serve for computing in the 1990s. (3) Just as uptake of devices such as small portable cameras and, most importantly, the portable cassette recorder, had radical implications for the conduct of anthropological research, so the portability of information technology facilitates not only collection of visual and aural data, but its integration with fieldnotes on a scale not previously possible. Such technologies truly facilitate the move from the verandah to the field and permit collection of a richer variety of data».

(1) 'Nerd' is a term invented by Dr. Seuss in *If I ran into the zoo in 1950*, where it represented a small comically angry-looking and unpleasant humanoid creature – 'And then, just to show them, I'll sail to Ka-Troo And Bring Back an It-Kutch a Preep and a Proo a Nerkle a Nerd and a Seersucker, too!'. Initially popularised in the 1970s as a reference to uninteresting persons, as the information technology revolution turned playful hippies into serious businessmen, later films such as *Revenge of the Nerds* granted them intelligence as bespectacled, but unathletic maths student wizards (in opposition to the athletic and sportive jovial 'jock') who turn the world upside down with their wizardry. / (2) Eisenstein's magisterial start (1979) has not been followed up by similar anthropological studies. / (3) The role of computers in anthropology has been addressed as early as 1951 (Thieme), though the role of minesweepers is no longer discussed (Rowe 1953: 912). Fischer (1994:1-2) discusses the related theme of how distinctively 'anthropological' computing in the discipline should be.)

<sup>3</sup> R. Robertson, *Computer Viruses and the Human Mind*, in «Internet» 2006, <http://www.goertzel.org/dynapsyc/1997/virus.html>: «HOW DO COMPUTER VIRUSES WORK? Given that analogy between the human mind and the computer, let us look at the behaviors of computer viruses for analogies to problems with the mind. First, just what is a computer virus? John McAfee, one of the foremost experts on computer viruses, defines a virus as: a computer program created to infect other programs with copies of itself. It has the ability to clone itself, so that it can multiply, constantly seeking new host environments. That may be all it does—a single mission to replicate and spread from one system to another. Or the virus program may be written to damage other programs, alter data, and then perhaps self-destruct, leaving no evidence of itself behind, so that defenses cannot be developed against it. (McAfee & Haynes, 1990:1). Thus computer viruses are much like biological viruses: a half-way point between life and non-life. They have the minimum requirement of all known living creatures: the ability to replicate themselves. They have enough intelligence to recognize their environment as friendly or hostile, and to take corresponding action. I think most people who aren't familiar with computers would be astonished to be told that any computer program could do even those two things. If they knew the full extent of the astonishing facility displayed by computer viruses, I think that astonishment might change into fear, fear not only of computer viruses, but of the future of computers. But that fear should really be turned back on the mind doing the fearing, because it is subject to the same attacks as a computer».

<sup>4</sup> Kether, *LIFE ON THE BORDER: METHODOLOGY, CHAPTER 4. METHODOLOGY. 4.1. Ethnography*, in «Internet» 2006, <http://www.kether.com/words/thesis/method.html>: «Dr. Sherry Turkle (1995), in researching her own work, spent a great deal of time observing, in person, the way that people interact with computers. She worked in places like computer labs, classrooms, and scientific conferences. Turkle has chosen not to present her findings unless she has met the informant in person. Her reasons for this include: I made this decision because of the focus of my research: how experiences in virtual reality affect real life, and more generally, on the relationship between the virtual and the real. (Turkle, 1995: 324) However, she goes on to recognize that researchers with different aims may legitimately employ different methodologies: In this way, my work on cyberspace

Fala-se também de “cibercultura” em diversos sentidos<sup>2</sup>. A implicação que se percebe aqui é – obviamente – a avaliação do próprio teor da Internet em âmbito antropológico: somente uma ‘tool’ com a qual jogar ou não, se se tem vontade, ou um nível de experiência humana que, aí, se revela e que se interessa por todos os aspectos da vida humana?

Se trataria - então - de considerar de qualquer modo a “auto-mutação” da “multimedialidade” mesma na sua incidência antropológica. A plataforma multimídia da Internet põe não só a questão da mutação nos relacionamentos humanos, inter-pessoais e a distância, no contexto da experiência humana em geral. A superação dos limites de lugar e momento vem depois acentuado pela potencialidade da Internet. Nasceria assim, um “não lugar”, ou seja, uma “onipresença” que pode ser concebida como área espiritual ou interpretada como conectividade mais veloz que a luz (de acordo com afirmações da pesquisa das ciências físicas)<sup>3</sup>. Opõe-se facilmente –nesta perspectiva- o âmbito “real” e o “virtual” dos relacionamentos humanos. A prática da Internet está agora abrindo a referência ao “real” em sentido mais amplo, incluindo a modalidade virtual a distância – à medida que vem “domesticada” pelo uso – com a localmente circunscrita na inter-pessoalidade em um campo que pode ser estudado da etnografia<sup>4</sup>.

### *Potenzialità ulteriori della ‘connettività’ informativa nella ‘intelligenza artificiale’*

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to this point is conservative because of its distinctly real-life bias. Researchers with different interests and theoretical perspectives will surely think about this differently. (ibid: 324) Anthropologist Steve Mizrach (1994), in his paper on Computer "hackers" and their language, presents an entirely different point of view. Because his research involved an underground group who were engaged in some illegal or quasi-illegal activities, he found it necessary to conduct his research entirely in the virtual. Beyond this, however, he suggests other reasons for doing so: From an emic perspective, many of our subjects do not distinguish between "real" life and "virtual" life. As good ethnographers and participant observers, we should not make such seemingly "etic" distinctions in the face of our informants. If they spend more of their waking time in cyberspace than in "real life", who is doing the more honest ethnography? The cyber-ethnographer, or the person who ignores that part of their life to which they devote the most time? ... As good cyber-ethnographers, we should be just as willing to examine the sociocultural relations in "cyber" society as we do in "real" society. ... Where people invest meaning, the anthropological interpreter should go; and people do invest great meaning into cyberspace. (Mizrach, 1994: 1-2) ».

<sup>1</sup> M. Giesler – M. Pohlmann, *THE ANTHROPOLOGY OF FILE SHARING: CONSUMING NAPSTER AS A GIFT*, in «Internet» 2006, <http://visionarymarketing.com/articles/gieslerpohlgift.html>.

<sup>2</sup> E. Ardevol, *Cyberculture: Anthropological perspectives of the Internet. Using anthropological theory to understand media forms and practices workshop Loughborough, 9th December, 2005*, in «Internet» 2006, [http://www.philbu.net/media-anthropology/lboro\\_ardevol.pdf](http://www.philbu.net/media-anthropology/lboro_ardevol.pdf): «Cyber-culture? What do we mean by "cyberculture"? When I decided to study Internet from an anthropological view, in the 90ties, the term "cyberculture" was on the arena. On one hand, people were using, and still use, the prefix "cyber" to refer to activities and social movements carried out through Internet, such as "cyberactivism", "cybercafe", "cyberart", etc. It seems that the word "cyberculture" pretends to be a new concept to put together all these activities. On the other hand, "cyberculture" was used by some scholars as a concept for understanding Internet impact on society, such as the proposal of Pierre Levy. Finally, "cyberculture" referred to a new interdisciplinary field of research, defined by the cultural analysis of communication and information technologies. My question then, was how to understand the multiplicity of studies that take a cultural perspective in their approach... The map of Internet galaxy studies has four attractors: a) Cyberculture as a new cultural model based on Internet technology, b) as an Internet emergent culture, c) as the cultural products developed in the Internet, and d) as a media form. These four elements are drawn down by using four coordinates or main trends in conceptualizing culture: culture as an adaptive strategy, as a system whole, as a symbolic order and as signifying practice. These different cultural perspectives also can be related with four principal focus of research in cyberculture studies: a) Internet as a technology, b) Internet as a new social context, c) Internet as a new creative and collaborative tool, c) Internet as a medium of communication (see table below). Let us see each constellation in more detail».

<sup>3</sup> N. F. McInnis, *THE FIRST INTERNATIONAL ELECTRONIC SEMINAR ON WHOLENESS, Time To Think The World Back Together*, in «Internet» 2004, [http://www.newciv.org/ISSS\\_Primer/seminar.html](http://www.newciv.org/ISSS_Primer/seminar.html): «Nonlocality is here to stay. The Internet reflects a recently discovered and mysterious quality of the universe, a quality of so-called "nonlocality." The term "nonlocal" was initially coined to describe observable and measurable interactions that seem to exceed the speed of light. For instance, certain influences of subatomic particles on other particles are instantaneous, occurring in less than the amount of time required for light to travel between them--as if the particles were telepathic. And in the cosmos at large, galaxies that are many more billions of light years apart than the universe is billions of years old respond identically to the same physical laws even though no signal could have traveled between them to convey the influence of these laws. According to the macrocosmic view of nonlocality, any particles that have once been in local relationship remain forever within each other's immediate influence, no matter how far apart they may drift. This suggests that everything has always been in relationship with everything else ever since the "Big Bang," the moment of cosmic origin during which all of the matter and energy in today's far-flung universe was initially localized at a single point. Universally distributed influences are termed "omnipresent" when they are considered to be spiritual. They are called "nonlocal" by those who conceive of them as purely physical. Regardless of what we may choose to call them, such influences by any other name are just as mysterious, and they are likewise just as lacking for an explanation within the limits of current scientifically ordained reality. Another type of omnipresence, or nonlocal everywhere-ness, is also characteristic of holograms in which the totality of the holographic image is present at every point».

<sup>4</sup> Liav Sade-Beck, *Internet Ethnography: Online and Offline*, in «International Journal of Qualitative Methods», 3 (2) June, 2004, pp. 9-10, etiam in «Internet» 2006, [http://www.ualberta.ca/~iiqm/backissues/3\\_2/pdf/sadebeck.pdf](http://www.ualberta.ca/~iiqm/backissues/3_2/pdf/sadebeck.pdf): «This conceptual difference creates a duplication of reality that is currently unacceptable, given the studies in the area of technology shaping society that examine how technology enters, and is gradually integrated into, people's daily lives (Lie & Sorensen, 1996). Studies in the field emphasize the process of "domestication," the process in which people adapt new technologies and bring it into their home lives. This virtualization process is the third dimension of the domestication process in which we transfer life, actions and objects from the physical world into the virtual environment, thus making our very lives and homes into virtual lives and homes (Agren, 1999). Under these circumstances, the virtual world and the 'real world' merge, creating a broader definition of reality. Instead of relating to the features that distinguish the virtual world from the real world, we must adopt an approach focusing on imagination, associations and reciprocity between the two worlds. This approach can be expressed only through a re-examination of the fieldwork (Wittel, 2000)».

A informação cria pela Internet una interconexão de todos os dados sobre tudo e sobre todos, a ponto que os campos específicos da ação, do pensamento, da emotividade, devem necessariamente interagirem um com outro<sup>1</sup>. Um novo tipo de pessoa humana nasce, os “pesquisadores de informação”, ou gente apaixonada em achar pontos de vista que eles ainda não conhecem (seja os que concordam com eles ou discordam deles)<sup>2</sup>. O conhecimento não é mais “hortus conclusus” que deve ser salvaguardado e defendido como segredo íntimo, individualmente ou corporativamente. “A inteligência artificial” se torna una extensão da “natureza”, mesmo os que pareciam “instrumentos artificiais”<sup>3</sup>. A “interconectividade” e a interdisciplinaridade serão insubstituíveis, em vista de um discernimento operativo diante da capacidade infinita de armazenamento de dados. Na crescente complexidade, haverá una inevitável complementaridade das disciplinas e dos métodos, tanto que as estruturas de conhecimento adquiridas perdem a sua organização mental fixa e estável. Do mesmo modo a informação cria un tramado de dados sobre tudo e todos, tanto que os diversos campos de ação e conhecimento entram necessariamente em mútua relação, invadindo as “zonas riservata” da existência individual<sup>4</sup>, memorizando cada coisa<sup>5</sup>: bem entendido, “memória” não só como continente mas como fonte ativa do “pensar” – (cfr a palavra “pamjat” em russo)<sup>6</sup>. A comercialização ou a publicidade na informação mistura verdadeiro e falso numa “reconfiguração” dos parâmetros informativos<sup>7</sup>. O desafio é de dar a todos un “acesso” ao equipamento “multimedial” para participar em todos os níveis do envolvimento humano<sup>1</sup>.

<sup>1</sup> UNESCO, *Comprendre pour agir*, Paris 1977, p. 380: «Il semble que la situation actuelle de l'information se caractérise par une double tendance à l'intégration. Sur le plan des disciplines, les approches isolées ne se justifient plus: les principes, les méthodes, les normes de traitement de l'information sont les mêmes, quelle que soit la matière à laquelle on a affaire; ainsi les instruments méthodologiques mis au point pour traiter de l'information scientifique et technique sont-ils applicables à l'ensemble des domaines du savoir. De même, sur le plan institutionnel, il y a, par-delà les problèmes spécifiques liés aux missions particulières d'organismes divers comme les bibliothèques, les centres de documentation ou les archives, des démarches, des méthodes et des technologies qui sont communes et autorisent à considérer l'ensemble des services d'information comme un système dont le fonctionnement et le développement appellent des approches semblables».

<sup>2</sup> S. H. Chaffee, *Mass Media and Interpersonal Channels: Competitive, Convergent, or Complementary*, in G. Gumpert – R. Cathcart, *Inter / Media*, Oxford 1982, p. 70: «Seekers of information (and opinion), on the other hand, appear to be quite different from other people. An extensive review of studies of exposure to information 62 found that people tend to seek out viewpoints they have not yet heard - whether they agree with the opinions expressed or not - when those viewpoints would be useful to know about. Other strong predictors of voluntary exposure to information are education (and correlated social class), and a previous history of exposure to the same topic. Taking these characteristics as a group produce a sensible generalization: potentially useful information is most likely to be sought by a person who knows enough (about the subject) to recognize deficiencies in his knowledge».

<sup>3</sup> Z. Pylyshyn, *Computers and Symbolisation of Knowledge*, in D. De Kerckhove - A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, p. 246: «What people who work in the fields of artificial intelligence and cognitive science believe is that certain aspects of human capacity must also be regrouped or reconceptualized. Man has been variously understood as a creature of special creation, as a social entity and, in the late 19th century as a biological object. What some of us now believe is that there is another natural kind to which cognitive or rational action should be assigned. That kind is one that also includes certain sorts of machines as members in good standing: machines whose behaviour is governed by what they represent - by what they know. These are knowledge-driven systems, or what my philosopher friend Dan Dennett calls intentional systems. George Miller, who has a way with words, has an even more picturesque word for this class of creatures. He calls them Informavores, or systems which are nourished and sustained by information. Because of this, certain forms of human behaviour are to be explained in precisely the same way we explain certain forms of computer behaviour. Thus, contrary to a widely held view, the computer is not a metaphor for mind, any more than geometry was a metaphor for space to Galileo. Rather it is a literal description, stated in terms of a more manageable member of the same natural kind. This is the new heresy: man the informavore, brother not only of the ape, but of the computer».

<sup>4</sup> J. Hoffman, *Computers and Privacy in the next Decade*, New York 1979, p. 10: «Privacy is not a flashy and visible social issue like energy or pollution. It is not as noticeable and its effects are subtle and everywhere. The sense of this comment -- namely pervasiveness and subtlety -- tends to characterize most situations that involve information, its flow, use, control, or management. We have all seen corporate executives, members of government, and other individuals shy away from the mystique of computers and not even try to understand them and their effects. The situation is changing, of course, and getting better in some places, but there still are organizations that do not accurately perceive with full insight the role of information in their affairs. Regrettably, information issues often get only lip service and little action. Thus privacy tends to be low on the priority list for attention».

<sup>5</sup> C. Sartori, *Il medium è anche il messaggio e il villaggio è davvero globale*, in D. De Kerckhove - A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, p. 134: «Se ciò può sembrare, oggi, ancora un'eccessiva forzatura della nostra condizione antropologico-culturale, si pensi al mondo in cui vanno strutturandosi, nel contesto post-industriale, i sistemi di archiviazione di dati, che sono destinati a costituire la vera «memoria collettiva» dell'umanità. Impiantati nelle « aree forti » del mondo (forti economicamente e politicamente, nonché da un punto di vista tecnologico) essi hanno per loro natura privilegiato, e resi anzi imprescindibile, il filtro dei mass-media: in particolare, ovviamente, mass-media di quelle stesse aree forti (per cui ad esempio, la più importante banca dati sull'attualità esistente nel mondo, quella del «New York Times», non include eventi che non siano stati registrati da un medium di lingua inglese). Ma il nuovo passo in avanti, sempre più vicino, è proprio quello di cominciare a prescindere dai «supporti cartacei» e di fare della registrazione audiovisiva lo strumento principe di archiviazione degli eventi, di classificazione della storia».

<sup>6</sup> П. Флоренский / P. Florenskij, *Столп и утверждение истины / La colonna e il fondamento della verità*, Москва 1917 / Bari 1974, стр. 203-204 / p. 255: «In tal modo pamjat' (la memoria, il ricordo) è soprattutto il pensiero nel suo significato più puro e radicale. Ci siamo domandati che cosa sia il peccato e ne è risultato che è distruzione, infrazione e deformazione. Ma la distruzione è possibile come qualcosa di temporaneo; la distruzione ha bisogno di nutrimento e quindi deve a quanto pare cessare, fermarsi, quando non abbia più nulla da distruggere. Lo stesso vale per la deformazione. E allora che cosa avviene al limite? Che cos'è questa distruzione totale della purezza e della sapienza? In altre parole; s'impone il quesito: che cos'è la geenna».

<sup>7</sup> A. Cauquelin, *La publicité: un contenant sans contenu*, in D. de Kerckhove - A. A. Iannucci, *McLuhan e la metamorfosi dell'uomo*, Roma 1984, pp. 109-110: «Entre l'information «vraie» et la fiction «fausse» une aire mixte, bâtarde s'interpose: celle d'une enveloppe froissable, où se mêlent approximations, détails, images. Des fragments de connaissance y sont transportés dans un milieu «désinformant» de telle sorte que ces fragments

## *Liberdade operativa e vida pública*

Baseada no livre acesso e na livre iniciativa, Internet acelera a consciência humana sobre a própria responsabilidade multiforme em relação ao impacto da sua atividade sobre o mundo: em outras palavras, a questão “ética” não é mais uma questão de avaliação “privada” mas torna-se uma prioridade “pública”<sup>2</sup>. O desafio – neste âmbito- seria implementar a liberdade sem prejudicar o ambiente, como parece delinear-se no uso da eletricidade que não cresce na mesma proporção do crescimento econômico com a conectividade operativa e informativa a distância em ação na Internet<sup>3</sup>.

*Premissa para uma “medialidade” acessível a todos: enfrentar o “digital divide” como acesso tecnológico ou como “nova ordem” informacional e “comunicacional”?*

O “divide” se distingue, alguma vez, como desvio geral e desvio entre zonas desenvolvidas e zonas menos favorecidas do mundo. O desvio geral se verificaria entre “usuários” abertos à aprendizagem e os reticentes (os “não conectados” em toda parte)<sup>4</sup>. Mas o fato que os mais críticos do “ciberespaço” reivindicam todavia a compartilhamento da conectividade “multimedial” aos menos favorecidos indica que se participa normalmente à mesma consciência de pertencer universalmente à humanidade, apesar da globalização econômica-política (cfr supra)<sup>5</sup>. Quanto às

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forment des îlots résistants au sein d'un espace que l'on pourrait alors appeler «symbolique»: tissu de rapports langagiers insignifiants ou se trouvent prises des bribes de savoir. Tout se passe comme si cet espace enveloppant produit par les mille et un réseaux d'opinions vagabondes s'évadait par le phénomène publicitaire de l'indistinction où l'avait tenue les théories du vrai, pour former aujourd'hui une réalité - que l'on pourrait appeler du second degré - mais qui, en tant que c'est bien la seule ou nous avons accès, devient l'objet même de notre volonté de savoir. Sans qu'il soit question pour autant de la percer ou de la transpercer en vue d'une réalité première. C'est cette difficile position du déni qui rend périlleuse la recherche sur le vraisemblable, sa logique et ses paradoxes».

<sup>1</sup> UNESCO, INTERNATIONAL COMMISSION FOR THE STUDY OF COMMUNICATION, *Communication. What do we know?*, in «UNESCO paper», 1976 n. 9, p. 25; F. J. Berr, *L'accès à la communication*, Paris 1977, p. 5.

<sup>2</sup> H. Pigeat, *Ethique des médias et révolution de l'Internet*, Rome 2001 (pro manuscripto – Centre culturel Saint-Louis de France), p. 17 : «Par une curieuse ironie, l'éthique débouche au XXI<sup>e</sup> siècle sur une question de société. Alors qu'on avait voulu, depuis le XVIII<sup>e</sup> siècle, la confiner à la sphère privée, elle s'impose au centre de la sphère publique. Ce retour de l'éthique est la conséquence de la fin d'une certaine idée de progrès. Pour la première fois depuis deux siècles, la science change de signification. Après s'être bornée dans l'antiquité à tenter de comprendre la nature, elle a ensuite produit des techniques qui permettaient à l'homme de s'y adapter, avant de s'engager plus tardivement dans la transformation même de la nature. La science continue à progresser, mais en osant transformer la nature, elle engendre une inquiétude fondamentale. La conviction qu'elle serve le bien-être et le bonheur humain n'est plus certaine. Plusieurs domaines illustrent cette inquiétude. Les formes modernes d'énergie ont fait reculer les limites des forces humaines, mais cette énergie paraît difficilement contrôlable et en revanche certainement destructrice de l'environnement. La biologie a rendu plus forts les végétaux, les animaux et êtres humains. En touchant à la vie, elle semble toutefois avoir réveillé la malédiction de Prométhée puni pour avoir volé aux dieux le feu, c'est-à-dire la science et la technique. Les nouvelles techniques de communication soulèvent un problème comparable. Le traitement numérique de l'information donne à l'intelligence humaine des capacités centuplées de rassembler et comparer les données. Il superpose aussi au monde réel, un monde «virtuel», c'est-à-dire artificiel, et qui n'est plus complètement celui de l'être humain. Dans ce domaine comme dans les autres, une sensation de vertige s'ouvre devant la puissance des nouveaux outils, devant les incertitudes qu'ils engendrent et devant la difficulté de les maîtriser. La solution ne relève évidemment pas de lois».

<sup>3</sup> G. C. Unruh, *Can the Internet Help Slow Global Environmental Decline?*, «First Monday», volume 6, number 11 (November 2001), etiam in «Internet» 2004, URL: [http://firstmonday.org/issues/issue6\\_11/unruh/index.html](http://firstmonday.org/issues/issue6_11/unruh/index.html): «An article entitled "The Internet Begins With Coal" (Mills, 1999) claimed that the Internet was a major user of electricity and would dramatically increase demand by the end of the decade. Because most electricity is currently generated by coal-fired power plants, the paper reasoned, an equivalent increase in coal consumption should be expected. If true, the environmental implications of such an assertion are alarming and should be of interest to those in the Internet community. Coal is the most polluting fuel in our energy mix contributing, among other things, to smog, acid rain and global warming. If the Internet energy use did indeed develop along the lines of this article, the environmental impact would be important. With the rapid adoption of personal computers, fax machines, Internet servers, routers, and other electronic devices, the thesis that the Internet will increase energy use seems intuitive. Despite this observation, however, numerous researchers including the U.S. Department of Energy, U.S. Environmental Protection Agency and Argonne and Lawrence Berkeley Laboratories (Laitner, 2000; Koomey et al., 2000) find indications that the Internet is causing structural changes that are actually decreasing the energy and material intensity of economic activity. For example, while the U.S. economy grew by eight percent during period 1996 to 1998, energy use grew by only one percent (U.S. Energy Information Administration (EIA), 1999; Geller and Thorne, 1999). The assumed source of this decoupling of economic growth and energy use is the rapid increase in the use of Internet-based information technologies in business and economic activity (Romm, 1999). Another study has tried to break down the gains and finds one-third to one-half of the improvement is due to the increase in Internet facilitated "new economy" business practices (Laitner et al., 2000) while the rest appears to be Internet-induced efficiency gains in the "old economy" (Mitchell-Jackson, 2001)».

<sup>4</sup> G. Hernes, *Emerging Trends in Ict and Challenges to Educational Planning*, in «Internet» 2005, <http://www.schoolnetfrica.net/fileadmin/resources/Emerging%20Trends%20in%20ICT%20and%20Challenges%20to%20Educational%20Planning.pdf> (pdf page 26): «Yet, the digital divide will be with us for years to come, and the poor will remain in the worst position for a long time, even under the most ambitious programs. Yet, perhaps the greatest divide is between the gains we would all reap if all of us could use the potential of the new technologies to develop our talents in ways that could benefit us all, and the willingness of those of us who are in the rich parts of the world to enable, empower, and involve all those who are now poor, at the margins, and not connected».

<sup>5</sup> P. Lévy, *L'universel sans totalité*, in «Cyberculture», «Rapport au Conseil de l'Europe», in «Internet» 2007, <http://www.archipress.org/levy/cyberculture/universel.htm>: «On dira peut-être qu'il ne s'agit pas là proprement de l'universel mais du planétaire, du fait géographique brut de

zonas não plenamente providas, nasce em 1997 a “Rede das redes” ou o “Global Knowledge Partnership (GKP)”<sup>1</sup>. No âmbito do “digital divide”, nota-se que o acesso aos NTIC não se faz através de compras individuais de material mas através dos “centros” de comunicação de vários tipos<sup>2</sup>. Nas zonas menos equipadas e através de (N)TIC uma ajuda para as necessidades elementares não cobertas vêm pelas tecnologias espaciais: saber geográfico-ecológico preciso para conformar uma agricultura mais profícua às populações locais (ajuda indireta mas em âmbito das necessidades primárias)<sup>3</sup>. Concentrando-se algumas vezes nos riscos de “colonização” causada pela “digital divide”, entre a “entre a sociedade da informação” e “comitê especial político e de descolonização”<sup>4</sup>, desliza-se em direção à “informação pública” para prospectar a “nova ordem mundial”. A plataforma de base das (N)TIC reconhecida na Internet retrocede como cenário geral diante a formação de “informação pública”<sup>5</sup>. A “nova ordem” deveria ao contrário ser formada de modo mais generalizado, invertendo o movimento em direção à uma economia planetária para

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l'extension des réseaux de transport matériel et informationnel, du constat technique de la croissance exponentielle du cyberspace. Pire encore, sous couvert d'universel, n'est-il pas seulement question du pur et simple "global", celui de la "globalisation" de l'économie ou des marchés financiers? Certes, ce nouvel universel contient une forte dose de global et de planétaire, mais il ne s'y limite pas. L' universel par "contact" est encore de l'universel, au sens le plus profond, parce qu'il est indissociable de l'idée d'humanité. Même les plus farouches contempteurs du cyberspace rendent hommage à cette dimension lorsqu'ils regrettent, à juste titre, que le plus grand nombre en soit exclu ou que l'Afrique n'y ait aucune part. Que révèle la revendication de "l'accès à tous" ? Elle montre que la participation à cet espace qui relie chaque être humain à n'importe quel autre, qui peut faire communiquer les communautés entre elles et avec elles-mêmes, qui supprime les monopoles de diffusion et autorise chacun à émettre pour qui est concerné ou intéressé, cette revendication révèle, dis-je, que la participation à cet espace relève d'un droit, et que sa construction s'apparente à une sorte d'impératif moral».

<sup>1</sup> GLOBAL KNOWLEDGE PARTNERSHIP, *La Rete delle reti*, in «Un seul monde. Eine Welt. Un solo mondo», DICEMBRE 2003 N. 4, (LA RIVISTA DELLA DSC PER LO SVILUPPO E LA COOPERAZIONE), etiam in «Internet» 2005, [http://www.sdc.admin.ch/ressources/deza\\_product\\_it\\_699.pdf](http://www.sdc.admin.ch/ressources/deza_product_it_699.pdf): «La Rete delle reti. La Global Knowledge Partnership (GKP) è stata fondata a New York nel 1997 e ha avuto la sua prima sede presso la Banca Mondiale. Si trattava allora, a livello internazionale, della prima rete indipendente per le TIC e lo sviluppo, alla quale partecipano ancora oggi sia le organizzazioni dei paesi donatori così come i governi, le imprese private, le ONG e varie istituzioni internazionali. Oggi, è la Svizzera ad averne la presidenza. La DSC sostiene la GKP non soltanto con considerevoli mezzi finanziari, ma anche con un impegno di tipo contenutistico e organizzativo, per rafforzare la funzione di ponte tra Nord e Sud del mondo di questa rete. La visione della GKP si cristallizza in «un mondo dalle pari opportunità, nel quale tutti abbiano accesso al sapere e possano utilizzare sapere e informazioni per migliorare la loro esistenza». La GKP gestisce una grande piattaforma per lo scambio di informazioni, esperienze e risorse, che possono essere d'ausilio nell'uso ottimale dei potenziali delle tecnologie dell'informazione per il miglioramento delle condizioni di vita dei più poveri. Essa conta oggi 69 organizzazioni associate, molte delle quali del Sud, e si considera «la Rete delle reti». Nella sue linee strategiche 2005, la GKP annota: «Crediamo che le persone che hanno accesso alle TIC possano migliorare la loro situazione economica, ma anche riuscire a evolversi al punto di poter aiutare sé stessi e le proprie comunità a essere parte del proprio sviluppo e a assumersi le relative responsabilità. Un benessere generalizzato, raggiunto per mezzo di una efficace utilizzazione di sapere e di informazioni, finirà per contribuire al cristallizzarsi di un mondo più stabile e giusto». <http://www.globalknowledge.org/>».

<sup>2</sup> SEA CURRENTS, *Information and Communication Technologies Offer Next Wave of Innovation for Health Communication Programs*, in «SEA Currents», Volume 22, Number 4 -- July/August 2004, etiam in «Internet» 2005, <http://nnlm.gov/sea/seacurrents/2004/4/article5.php>: «For example, Internet access in the developing world is growing not as a result of individuals buying computers and accessing the Internet via a fixed phone line. In the developing world, community access points - such as telecenters, cybercafes, and community kiosks - provide the link to the Internet for most people. In addition to Health Communication Insights, HCP's website will also launch a discussion forum for health communication professionals to share their experiences in using ICTs in the field. They are also invited to submit their own case studies or success stories to enrich HCP's collection of ICT examples».

<sup>3</sup> U. Deichmann – St. Wood, *GIS, GPS, AND REMOTE SENSING*, in «Focus 7 (Appropriate Technology for Sustainable Food)» 2002, Brief 7 of 9, August 2001, etiam in «Internet» 2005, [http://www.iapad.org/publications/ppgis/gis\\_gps\\_and\\_remote\\_sensing.pdf](http://www.iapad.org/publications/ppgis/gis_gps_and_remote_sensing.pdf) (pdf page 3): «The role of information and communication technology (ICT) in accelerating development is drawing increasing attention. ICT promises to help isolated and disenfranchised communities transform themselves into development participants who are better informed and integrated. However, this promise is tempered by concerns that the control and application of ICT could reinforce—or simply reconfigure—existing forms of inequity and marginalization and might be unsustainable in more remote rural areas..... Successful Pro-Poor Applications of Spatial Technologies. Many successful pro-poor applications of spatial technologies exist at the more aggregate levels of agricultural planning and research. Detailed information about agroecological and socioeconomic conditions, for instance, enables better targeting of agricultural technology. Geographic information also assists in planning rural infrastructure, such as prioritizing national investments in rural roads, electricity, health, and education. The preparation of welfare or poverty maps can greatly improve targeting interventions to the poorest communities. Geographic targeting at the level of small communities reduces the chance that the intended recipients are missed or that resources leak to the nonpoor. Other successful GIS applications in rural areas include emergency planning and response. The key to successful GIS applications is the availability of detailed spatial data. While remotely sensed information and GPS-based field surveys help plug some data gaps, much information is still difficult to obtain at a geographic scale that is relevant for operational impact. This is particularly true for socioeconomic data, which cannot be captured remotely or interpolated from sparse observational information. The main sources of such information—censuses and surveys—do not address all information needs. The former are carried out infrequently and provide only the most basic information, while the latter can provide detailed information but usually not at aggregation levels that are suitable for operational work. Strengthening of formal and informal capabilities for spatial-data collection at local levels is thus one of the priority needs».

<sup>4</sup> Cfr il testo: UNITED NATIONS, *General Assembly* (25 January 2005 – A/RES/59/126 A-B - Fifty-ninth session - Agenda item 78), *Resolutions adopted by the General Assembly* [on the report of the Special Political and Decolonization Committee (Fourth Committee) (A/59/473)], pro manuscripto, New York 2005, (18 pp.).

<sup>5</sup> Cfr il testo: UNITED NATIONS, *General Assembly* (25 January 2005 – A/RES/59/126 A-B - Fifty-ninth session - Agenda item 78), *Resolutions adopted by the General Assembly* [on the report of the Special Political and Decolonization Committee (Fourth Committee) (A/59/473)], pro manuscripto, New York 2005, (18 pp.).

enquadrar a dinâmica da igual e pari participação aos recursos e à informação (incluindo o elemento da “medialidade” instrumental) <sup>1</sup>.

### *Dinâmica “comunicacional” na “medialidade” e prioritária das imagens*

A combinação mista de texto, som, imagem, tende a dar prioridade à dinâmica da imagem, graças à potencialidade numérica para reelaborar artificialmente a construção visual do que se “deixa ver” ou o que se “deixa olhar” <sup>2</sup>. Este impacto é mais comprometido que a reduzida “incidência emocional”. A história da comunicação indica diversas dimensões da sua capacidade de (cfr o valor antropológico do ‘vídeo’, supra). A visualidade do cérebro e a da rede convergem na forma computadorizada <sup>3</sup>. A visualidade do olho não é plana mas esférica, assim se poderá formar uma percepção esférica na rede computadorizada <sup>4</sup>. Pensa-se em converter a comunicação acústica – através de um tipo de microfone a “input” visual – em comunicação da imagem pela visualidade do falar para convertê-lo depois em linguagem falada, para evitar os “distúrbios”, as perturbações, a alteração da voz, etc. <sup>5</sup>

<sup>1</sup> H. Mowlana, *The Communications Paradox*, in «Bulletin of the Atomic Scientists», July 1995, etiam in «Internet» 2007, <http://www.globalpolicy.org/globaliz/special/netcult.htm>: «The call for equal access to information and resources has been replaced by a worldwide movement toward a market economy and capitalism, headed by the United States and the European Economic Community. The disintegration of the Third World as a political force and the collapse of the Soviet Union as a major competitive power in the international system have accelerated the process of the globalization of goods and commodities and, with that, the emergence of a new global information infrastructure. The true debate, however, arises over the content of this new world order. At the center stand at least two notions of a new order. One is the official version expressed by the current globalization "leaders," primarily the United States and a number of European countries. This ideal at least rhetorically envisions an unrestricted market economy, globalization of information by dominant Western transnational firms, and military dominance of any challenges to the order by a loose coalition of the same military titans. No role exists in this order for the developing countries of Africa, Asia, and Latin America, except to applaud the ascendancy of commercial secularism as a fait accompli. The disenfranchised are supposed to participate in this version of the world order as passive receptacles, to be filled by whatever content the titans choose to beam to them. The second possibility is an unofficial, unpublicized, often desperate call for a new world order by the less fortunate, who are too often taken for granted as the passive audience that will support the movement to disenfranchise them. This vast majority--collectively powerful but individually powerless--are unable to strike any bargain with the powerful due to their lack of resources and to the divisions created among them. If they could but unite and make their preferences known, then they might have a chance. But it is far harder for the 150 smallest nations--and the five billion disenfranchised consumers--to unite than it is for the dozen largest information providers and the global Fortune 500 to insinuate their products into every market».

<sup>2</sup> H. Pigeat, *Ethique des médias et révolution de l'Internet*, Rome 2001 (pro manuscrito – Centre culturel Saint-Louis de France), p. 5 : «Le mélange du texte, du son et de l'image tend à donner La préséance à la logique de l'image faite d'émotion au détriment du raisonnement. L'offie à tous d'un moyen d'expression favorise certes la liberté d'expression mais joue au détriment des méthodes journalistiques traditionnelles de vérification des sources, d'observation des règles classiques d'élaboration de l'information. La distinction n'est plus très claire entre les sources professionnelles d'information réputées plus ou moins fiables et les sources d'amateurs par nature plus aléatoires. La numérisation de toutes les formes d'information écrites, sonores ou audiovisuelles permet des manipulations la plupart du temps imperceptibles pour le grand public. On sait peu, par exemple, que la quasi-totalité des images publicitaires, fixes ou mobiles, sont aujourd'hui le résultat de reconstructions complètes, connues sous le nom de «post-production». Les mêmes facilités peuvent affecter les informations d'actualité. Les seules véritables limites en la matière ne tient qu'au délai et au coût de telles manipulations. Les mêmes procédés de numérisation permettent le stockage facile et sur une longue durée d'informations réutilisables à tout moment. De même qu'une copie se distingue malaisément de l'original, une image d'archives peut facilement donner le change avec une image d'actualité».

<sup>3</sup> Cfr P. M. Lester, *Visual Communication: Images with Messages* (with InfoTrac), in «Internet» 2007, <http://books.google.it/books?id=6oibH9roTmkC&dq=images+and+new+communication&pg=RA1-PA5&ots=uA0ew7PrAp&sig=NkJQbafLUeqxuyUxP6Pfqeahw3U&prev=http://www.google.it/search%3Fie%3DUTF-8%26oe%3DUTF-8%26sourceid%3Dgdl%26q%3Dimages%2Band%2Bnew%2Bcommunication%26hl%3Dit&sa=X&oi=print&ct=result&cd=2#PRA1-PA1,M1>.

<sup>4</sup> Saarelma, H, *Hybrid Media in Image Communications; New Forms of Mass Communication?*, in «Internet» 2007, [http://www.media.hut.fi/GTTS/GAiF/GAiF\\_PDF/GAiF2003\\_3-1.pdf](http://www.media.hut.fi/GTTS/GAiF/GAiF_PDF/GAiF2003_3-1.pdf): «The retina of the human eye is hemispherical, not flat. Indeed, systems displaying an image on a hemispherical screen are not a new invention (for example, the so-called omnitheatres in science parks). These give the viewer a strong sense of presence in the motion picture on show. Several cameras with a flat image surface are needed to produce an image to be displayed on a hemispherical screen. The idea to design a spherical camera has been put forward /1/. With currently available semiconductor technology, this kind of camera cannot yet be manufactured with sufficient economy. The spherical camera will have two major applications: In surveillance camera applications, a single camera will display a hemispherical space without distortions. Expensive scanning equipment is avoided, and identification algorithms are more accurate. In communications applications, the spherical camera could be expected to take a prominent position in sports and cultural events. This would mark a transition from the 17th-century hole in the wall to remote presence independent of time and place (and the image would be the right way round)».

(1) Camera System and Display Device. International Patent Publication Number WO 00/72089 A1. International Application Number PCT/FI00420. Approved 30.11.2000. 18 p.)

<sup>5</sup> K. Otani - T. Hasegawa, *The image input microphone: a new nonacoustic speech communication system by media conversion from oral motion images to speech*, in «Internet» 2007, <http://cat.inist.fr/?aModele=afficheN&cpsid=3442560>: «we propose a new speech communication system to convert oral motion images into speech. We call this system «The Image Input Microphone». It provides high security and is not affected by acoustic noise because it is not necessary to input the actual utterance. This system is especially promising as a speaking-aid system for people whose vocal cords are injured. Since this is a basic investigation of media conversion from image to speech, we focus on vowels, and conduct experiments on media conversion of vowels. The vocal-tract transfer function and the source signal for driving this filter are estimated from features of the lips. These features are extracted from oral images in a learning data set, then speech is synthesized by this filter inputted with an appropriate driving signal. The performance of this system is evaluated by hearing tests of synthesized speech. The mean recognition rate for the test data set was 76.8%. We also investigate the effects of practice by iterative listening. The mean recognition rate rises from 69.4% to over 90% after four tests over four days. Consequently, we conclude the proposed system has potential as a methods of nonacoustic communication».

## Da miniaturização à posterior velocidade

Um primeiro aspecto em via de atuação: com a miniaturização se estende a velocidade da conectividade a distância: computador e Internet, da velocidade média se vai a uma Internet a altíssima velocidade<sup>1</sup>. As (N)TIC impelem a experiência humana para o ‘virtual’ (pessoa, sociedade, sensibilidade)<sup>2</sup>. Desvanecem certas fronteiras espaços-temporais. O problema será de tornar os hardware de modem à altíssima velocidade compatíveis e os gestores dos serviços de acesso assim como os próprios computadores<sup>3</sup>. A altíssima velocidade está se tornando uma exigência da universalidade conectiva assim como a água e o ar, com direito que devem tornar-se operativos no mérito, em vista da superação do “digital divide”<sup>4</sup>.

## Combinar rapidez com capacidade informativa

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<sup>1</sup> ADVISORY GROUP TO THE EUROPEAN COMMISSION, *The Future of the Internet - What Role for Europe? Interim Report of an Advisory Group*, <http://www.cordis.lu/esprit/src/i2eurepo.htm>: «Twin development pushes - High-performance Internet and Commodity Internet. The history of computing, and indeed of many other high-tech industries, has highlighted developments in two complementary directions. Computer vendors have always used technology advances both to reduce the cost of computers for constant performance, and to increase the performance available at constant price. The Internet is now showing a very similar behaviour. Supplying access for the general public to the "Commodity Internet" from their homes is obviously a very price-sensitive business, and today depends heavily on telephone or cable TV modems, which tend to have rather limited performance, but the size of the potential market is huge. On the other hand, universities and leading research institutes and companies have a real need to exploit the very highest-performance networking, as a way forward in fields such as distance learning, remote diagnosis, distributed collaborative engineering projects, and remote access to huge distributed databases. The past two years have shown that these twin pushes, towards the commodity Internet and towards a high-performance academic and research Internet, do not automatically fit together in an easy way. Specifically, the way in which bulk personal e-mail and Web-access traffic interferes with high-performance traffic, and especially with the real-time requirements of graphics and audio traffic, as all packets come together and flow across the major Internet switches and backbone lines, has led to significant congestion. Some of the recent American initiatives, and specifically the Internet2 initiative from the universities, emphasise the need now to separate out these traffic flows, and to develop better technical and commercial models for how Internet growth can be funded».

<sup>2</sup> Th. P. Novak – D. L. Hoffman, *Bridging the Digital Divide: The Impact of Race on Computer Access and Internet Use*, (Project 2000, Vanderbilt University, February 2, 1998. This Working Paper is a longer version of the article, "Bridging the Racial Divide on the Internet," published in Science, April 17, 1998), in «Internet» 2002, <http://www2000.ogsm.vanderbilt.edu/papers/race/science.html>: «Introduction. That portion of the Internet known as the World Wide Web has been riding an exponential growth curve since 1994 (Network Wizards 1998; Rutkowski 1998), coinciding with the introduction of NCSA's graphically-based software interface Mosaic for "browsing" the World Wide Web (Hoffman, Novak, and Chatterjee 1995). Currently, over 29 million hosts are connected to the Internet worldwide (Network Wizards 1998), and somewhere between 60 to 75 million adults (CyberAtlas 1998) in the United States alone have access to around 320 million unique pages of content (Lawrence and Giles 1998), globally distributed on arguably one of the most important communication innovations in history. Enthusiasm for the anticipated social dividends of this "revolution in democratic communication" (Hoffman 1996) that will "harness the powerful forces of science and technology" (Clinton 1997a) for all members of our society appears boundless. The Internet is expected to do no less than virtually transform society. Nowhere is this confidence expressed more clearly than in President Clinton's aggressive objective to wire every classroom and library in the country by the year 2000 (NetDay 1998), followed by every home by the year 2007, so that "every 12-year-old can log onto the Internet" (Clinton 1997b)».

<sup>3</sup> E. A. Torgan, *The new speed limit - review of 13 high-speed modems meeting the V.34 28.8-Kbps standard - includes related article on PC card modems - Hardware Review – Evaluation*, in «Home Office Computing», July 1995, etiam in «Internet» 2008, [http://findarticles.com/p/articles/mi\\_m1563/is\\_n7\\_v13/ai\\_17167508](http://findarticles.com/p/articles/mi_m1563/is_n7_v13/ai_17167508): «Some Important Considerations The fastest modem in the world won't do you any good unless your access provider can handle the pace, so it's a good idea to make sure you have access to 28.8 service before buying a 28.8 modem. America Online, CompuServe, and Prodigy have all begun to offer 28.8 access, but it's definitely worth investigating whether your area is covered. In addition, bear in mind that even a high-speed external modem and a fast connection are no guarantee you'll be moving at top speed. An external V.34 modem can sometimes transmit data faster than a PC can handle. The result is a data bottleneck that makes the increased speed of your modem worthless. The cause of the problem is the PC's serial port controller chip, or UART. The UART (universal asynchronous receiver/transmitter) Chip resides on the serial port and handles communications between your PC and the modem. All data coming in through your phone line must go through it. Most older PCs have 16450 UART chips, which use a tiny buffer that must be attended to immediately by the system's processor. Overloading this buffer can result not only in lost data and higher transmission times but even system crashes. A newer UART, called the 16550, is found in the serial ports of the current crop of systems. These new ports have much larger buffers and allow for more efficient and accurate communications at high speeds. With a slower port, you won't be able to move much faster than 14.4Kbps, which is like buying a sports car and never driving it over 30 miles per hour. (Note: To determine which UART your system has, call up Microsoft System Diagnostics by typing MSD at the C:> prompt in DOS--not from the DOS prompt in Windows--then click on the appropriate COM port to see which chip you have)».

<sup>4</sup> CWA – COMMUNICATIONS WORKERS IN AMERICA, *Why We Must Act Now on Universal Internet Access and the Digital Divide*, in «Internet» 2008, <http://www.speedmatters.org/why/>: «As high speed Internet access is seen more and more as a vital utility, such as water or electric services, those without these services available to them are left stranded in the digital divide. A policy to make universal Internet access a priority would improve the ability for us to close the digital divide by leaps and bounds. It is now time for the United States to adopt a comprehensive universal Internet access policy to ensure that we all benefit from the telecommunications and information revolution. Throughout our history we have been able to benefit from major technological advances because we adopted national policies to ensure the widespread and equitable deployment of those technologies. In the 19th century we adopted policies to develop canals and a national railroad system. In the 20th century we instituted policies to develop national telephone and highway systems. In the 21st century, we need to have a national, universal high speed Internet access policy».

O maior problema do correio eletrônico é de não transmitir textos já formatados por causa da tamanho do volume a ser levado em conta<sup>1</sup>. Outro problema consiste no envio de mensagens que não têm nenhuma proteção garantida<sup>2</sup>. Se está passando da atual Internet à “Internet 2”, com uma rapidez exponencial graças à fibra ótica, como já acontece nas universidades americanas e além – operada pela NASA- entre os hospitais e clínicas maiores, para uma conectividade de alta resolução e intervenções cirúrgicas virtuais (com imagens a 3 dimensões) além de diagnóstico e consultas<sup>3</sup>. O sentido do desenvolvimento atual parecem prosseguir paralelamente ao longo de um duplo binário: uma Internet de ampla acessibilidade para uso comum e uma Internet de alta quota para uso de altíssima velocidade<sup>4</sup>. Se mira depois às conexões sem suporte do computador para conexões sem fio, incluindo a gestão a distância de todas as operações da própria casa<sup>5</sup>.

### *Uma prioritária dimensão virtual na nova comunicação?*

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<sup>1</sup> ADVISORY GROUP TO THE EUROPEAN COMMISSION, *The Future of the Internet - What Role for Europe? Interim Report of an Advisory Group*, in «Internet» 2004, <http://www.cordis.lu/esprit/src/i2euro.htm>: «For any application to come into widespread use on the Internet, several conditions must be met. The application itself needs to be well-designed, affordable, and catch users' imaginations. But, more important, there must be a sufficiently large body of users with access to whatever equipment, including computers, displays and audio devices, but also Internet bandwidth, is required to run the application effectively. Roughly speaking, a user who has regular, reliable, connectivity at 1 Kilobits per second (Kbps) will only be happy with that Internet performance for asynchronous e-mail (unformatted text). Formatted text requires roughly ten times that bandwidth (10 Kbps), and the use of simple interactive graphics across the World Wide Web needs frequent and reliable access to Web servers at an effective performance of 100 Kbps to be at all impressive. Realistic graphics and other data-intensive applications can easily use up to 1000 Kbps of access bandwidth between the user and the server(s) involved».

<sup>2</sup> Ch. Adetokunbo Shoniregun, *The Future of Internet Security, Should common security technologies be blended with biometrics for accuracy and reliability?*, in «Internet» 2004, [http://www.acm.org/ubiquity/views/c\\_shoniregun\\_1.html](http://www.acm.org/ubiquity/views/c_shoniregun_1.html): «The Internet uses simple mail transfer protocol (SMTP) to transmit electronic mail and most business transactions. These transmissions have as much privacy as a postcard and travel over insecure, untrusted lines. Anyone anywhere along the transmission path can obtain access to a message and read the contents with a simple text viewer or word processing program. Because the transmission lines are insecure, it is easy to forge e-mail or use another person's name. Theft of identity is becoming the nation's leading incidence of fraud. A person can even claim that someone else sent a message, for example, to cancel an order or avoid paying an invoice».

<sup>3</sup> M. Lerner, *Learn the Net, Master the Basics: The Future*, in «Internet» 2004, <http://www.learnthenet.com/english/html/03future.htm>: «When the World Wide Web began in 1990, few suspected how successful it would become. There are now millions of websites and billions of web pages. But as many people are well aware, the Web can be painfully slow. Most people still connect to the Internet using 56 Kbps modems and telephone lines. Because the data-carrying capacity of telephone lines, known as bandwidth, can be low, receiving electronic data may take a long time. New technology promises to address this problem. Connecting to the Internet using fiber optic lines and via cable TV and satellite increases bandwidth dramatically, making the Web more useful. Expect to see an explosion of e-commerce, collaborative projects, videoconferencing and virtual environments. Many of these applications are under development or already in use in some form. The incubator for many of the emerging technologies that are shaping the future is known as Internet2. Formed in 1996 and administered by the University Corporation for Advanced Internet Development (UCAID), Internet2 is a partnership between universities, corporations and government agencies. It's a Petrie dish for networking experiments. The project's goals are to create new applications that can't run over the existing Internet and to develop the infrastructure that supports those applications. Internet2 is a not a single network, but a consortium of hundreds of high-speed networks linked by fiber optic backbones that span the United States and link to other countries. It transmits data at speeds up to 2.4 gigabits per second--45,000 times faster than a 56 Kbps modem, allowing scientists to test their laboratory discoveries in the real world. The next-generation network went online in February, 1999, linking a number of universities around the world. It should be available for commercial use in a few years. Then get ready for 21st century services like interactive television, virtual 3-D videoconferencing, movies-on-demand, and much more. High-speed networks will make it possible for professionals to work in ways never before possible. For instance, scientists around the world can share specialized equipment like electron microscopes. NASA has developed a Virtual Collaborative Clinic that connects medical facilities around the U.S., allowing doctors to manipulate high-resolution, 3-D images of MRI scans and other medical imaging. Not only can doctors consult and diagnose, but they can simulate surgery by using a "CyberScalpel." Virtual surgery gives surgeons an opportunity to practice before ever entering the operating room, reducing the time required for the actual procedure. Using this kind of virtual technology, local hospitals can access resources and skills only available at larger institutions. NASA plans to use the technology to provide remote health care to astronauts on extended space journeys».

<sup>4</sup> ADVISORY GROUP TO THE EUROPEAN COMMISSION, *The Future of the Internet - What Role for Europe? Interim Report of an Advisory Group*, in «Internet» 2004, <http://www.cordis.lu/esprit/src/i2euro.htm>: «Twin development pushes - High-performance Internet and Commodity Internet. The history of computing, and indeed of many other high-tech industries, has highlighted developments in two complementary directions. Computer vendors have always used technology advances both to reduce the cost of computers for constant performance, and to increase the performance available at constant price. The Internet is now showing a very similar behaviour. Supplying access for the general public to the "Commodity Internet" from their homes is obviously a very price-sensitive business, and today depends heavily on telephone or cable TV modems, which tend to have rather limited performance, but the size of the potential market is huge. On the other hand, universities and leading research institutes and companies have a real need to exploit the very highest-performance networking, as a way forward in fields such as distance learning, remote diagnosis, distributed collaborative engineering projects, and remote access to huge distributed databases. The past two years have shown that these twin pushes, towards the commodity Internet and towards a high-performance academic and research Internet, do not automatically fit together in an easy way. Specifically, the way in which bulk personal e-mail and Web-access traffic interferes with high-performance traffic, and especially with the real-time requirements of graphics and audio traffic, as all packets come together and flow across the major Internet switches and backbone lines, has led to significant congestion. Some of the recent American initiatives, and specifically the Internet2 initiative from the universities, emphasise the need now to separate out these traffic flows, and to develop better technical and commercial models for how Internet growth can be funded».

<sup>5</sup> M. Lerner, *Learn the Net, Master the Basics: The Future*, in «Internet» 2004, <http://www.learnthenet.com/english/html/03future.htm>: «New kind of Web. While PCs were once the primary means of accessing the Internet, we're now seeing Internet-enabled devices such as pagers and cell phones that send and receive e-mail and access the Web. Soon, everything from your car to your refrigerator will be connected to the global network, communicating with each other wirelessly».

A primeira hipótese se refere a constituição através da Internet de uma experiência humana “virtual” (pessoa, sociedade, sensibilidade)<sup>1</sup>. A pergunta que se impõe sobre a “projeção” desta virtualidade na experiência transformada em “real”.

*Perspectivas para o futuro. Um “hardware” não rígido e fixo mas fisiológico e móvel?*

Se evoca Internet como “hardware externo” à pessoa humana, mas certas observações enfatizando que o seu “hardware/software” poderia tornar-se uma parte “fisiologicamente interna” de nós mesmos<sup>2</sup>. Como avaliar isto? Num futuro próximo se prevê uma posterior sofisticação dos “browsers” ou “software” de navegação na Internet: cada vez mais independente dos fornecedores e da infra-estrutura estável e sempre mais operativa com as conexões sem fio<sup>3</sup>. Nas telecomunicações se impõe um quadrinômio: privado, móvel, transnacional<sup>4</sup>. O “hardware externo” se prepara para se tornar um suporte flexível e também fisiológico, conectado e alimentado por descargas nervosas corporais<sup>5</sup>. O maquinário das (N)TIC se transforma ulteriormente em autodata (capaz de

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<sup>1</sup> Th. P. Novak – D. L. Hoffman, *Bridging the Digital Divide: The Impact of Race on Computer Access and Internet Use*, (Project 2000, Vanderbilt University, February 2, 1998. This Working Paper is a longer version of the article, “Bridging the Racial Divide on the Internet,” published in *Science*, April 17, 1998), in «Internet» 2002, <http://www2000.ogsm.vanderbilt.edu/papers/race/science.html>: «Introduction. That portion of the Internet known as the World Wide Web has been riding an exponential growth curve since 1994 (Network Wizards 1998; Rutkowski 1998), coinciding with the introduction of NCSA's graphically-based software interface Mosaic for “browsing” the World Wide Web (Hoffman, Novak, and Chatterjee 1995). Currently, over 29 million hosts are connected to the Internet worldwide (Network Wizards 1998), and somewhere between 60 to 75 million adults (CyberAtlas 1998) in the United States alone have access to around 320 million unique pages of content (Lawrence and Giles 1998), globally distributed on arguably one of the most important communication innovations in history. Enthusiasm for the anticipated social dividends of this “revolution in democratic communication” (Hoffman 1996) that will “harness the powerful forces of science and technology”(Clinton 1997a) for all members of our society appears boundless. The Internet is expected to do no less than virtually transform society. Nowhere is this confidence expressed more clearly than in President Clinton's aggressive objective to wire every classroom and library in the country by the year 2000 (NetDay 1998), followed by every home by the year 2007, so that “every 12-year-old can log onto the Internet” (Clinton 1997b)».

<sup>2</sup> J. Strehovec, *Theories of Internet Culture and Internet Textuality*, in «Internet» 2002, <http://www2.arnes.si/~ljzpubs1/theories.htm>: «The Internet, too, will within this paradigm gradually cease to exist “on the outside”- on computer hardware and its software, and will start reaching under the user's skin, into the physical body. My analyses will be based on on-line documents of Internet culture and Internet textuality and on the most recent achievements of theories of the Internet and new-media cultures. I will also focus my attention on the theoretical conceptualization of a (trendy) individual as a user as well as a creator of the Internet culture. It is important to know that the user is no longer a passive receptor of information, transmitted by the big, traditional media, but is actively involved in data environments, immersing into them, assuming roles in their processes and adopting standpoints regarding their perspectives. The most of my attention will be devoted to the question of the techno-formed sensitivity within the Internet culture, for we have been witnessing new forms of “virtual sensitivity” (virtual viewing, hearing and touching and a virtual sense of telepresence and remote activities)».

<sup>3</sup> S. Vaknin, *Internet: A Medium or a Message? Essays regarding the Internet, E-Commerce, E-Publishing, and Information Technology (IT)*, in «Internet» 2006, <http://samvak.tripod.com/internet.html>: «Browsers are in for a great transformation. Most of them are likely to have 3-D, advanced audio, telephony / voice / video mail (v-mail), instant messaging, e-mail, and video conferencing capabilities integrated into the same browsing session. They will become self-customizing, intelligent, Internet interfaces. They will memorize the history of usage and user preferences and adapt themselves accordingly. They will allow content-specificity: unidentifiable smart agents will scour the Internet, make recommendations, compare prices, order goods and services and customize contents in line with self-adjusting user profiles. Two important technological developments must be considered: PDAs (Personal Digital Assistants) - the ultimate personal (and office) communicators, easy to carry, they provide Internet (access) Everywhere, independent of suppliers and providers and of physical infrastructure (in an aeroplane, in the field, in a cinema). The second trend: wireless data transfer and wireless e-mail, whether through pagers, cellular phones, or through more sophisticated apparatus and hybrids such as smart phones. Geotech's products are an excellent example: e-mail, faxes, telephone calls and a connection to the Internet and to other, public and corporate, or proprietary, databases - all provided by the same gadget. This is the embodiment of the electronic, physically detached, office. Wearable computing should be considered a part of this “ubiquitous or pervasive computing” wave. We have no way of gauging - or intelligently guessing - the part of the mobile Internet in the total future Internet market but it is likely to outweigh the “fixed” part. Wireless internet meshes well with the trend of pervasive computing and the intelligent home and office. Household gadgets such as microwave ovens, refrigerators and so on will connect to the internet via a wireless interface to cull data, download information, order goods and services, report their condition and perform basic maintenance functions. Location specific services (navigation, shopping recommendations, special discounts, deals and sales, emergency services) depend on the technological confluence between GPS (satellite-based geolocation technology) and wireless Internet».

<sup>4</sup> COMMUNICATIONS TRENDS, *World Telecommunication Development Report 2002: 'Reinventing Telecoms' & Trends in Telecommunication Reform 2002: 'Effective Regulation'*, in «RFDESIGN», March 2002, etiam in «Internet» 2005, [http://rfdesign.com/news/radio\\_itu\\_offers\\_insights/](http://rfdesign.com/news/radio_itu_offers_insights/): «Telecoms Reinvented. Today's telecommunication world can be summarized in four words: private, competitive, mobile and global. Private - more than half of ITU Member States by the beginning of 2002, either fully or partially privatized their incumbent telecommunication operator. Even in countries that have not yet done so, the private sector accounts for an ever-greater share of the market thanks to new market entry through joint venture and licensing. Competitive - while a majority of countries still retain monopolies in fixed-line services, such as local and long distance calls, competition is wide spread. An overwhelming majority of countries now allow competition in the mobile and Internet market segments. Mobile - telecommunication services are increasingly mobile, that is, delivered by the medium of radio waves rather than over a fixed-line network. Global - many major telecommunication operators have holdings in operators in other nations. Countries are also choosing to enshrine their market liberalizing moves in treaty-level commitments, notably the World Trade Organization's basic telecommunication agreement. In addition, operators are offering new services such as global roaming, satellite systems and calling cards. Future third-generation (3G) mobile services have been designed from the start to be global rather than national in scope».

<sup>5</sup> J. Strehovec, *Theories of Internet Culture and Internet Textuality*, in «Internet» 2002, <http://www2.arnes.si/~ljzpubs1/theories.htm>: «The Internet, too, will within this paradigm gradually cease to exist “on the outside”- on computer hardware and its software, and will start reaching under the user's skin, into the physical body. My analyses will be based on on-line documents of Internet culture and Internet textuality and on the most recent achievements of theories of the Internet and new-media cultures. I will also focus my attention on the theoretical conceptualization of a (trendy)

aprender sozinho) <sup>1</sup>. Se auto-adapta ao humano e não humano condicionado ao maquinário. A extensão do “wireless” nos liberta das imobilidades dos cabos e escrivatinhas, e até os serviços públicos <sup>2</sup>. Note-se porém uma certa lentidão na passagem à mobilidade mais extensa <sup>3</sup>.

### *Liberdade operativa e vida pública*

A Internet, baseada no livre acesso e na livre iniciativa, acelera a consciência humana sobre a responsabilidade multiforme relativa ao impacto da sua atividade no mundo: em outras palavras, a questão ética não é mais um problema de avaliação “privada” mas se torna uma prioridade pública <sup>4</sup>.

### *A atividade humana mais solitária?*

A pergunta se põe se Internet, no quadro da atividade, fragmentará posteriormente a convivência humana em um uso individualizado que torna o trabalho mais solitário <sup>5</sup>.

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individual as a user as well as a creator of the Internet culture. It is important to know that the user is no longer a passive receptor of information, transmitted by the big, traditional media, but is actively involved in data environments, immersing into them, assuming roles in their processes and adopting standpoints regarding their perspectives. The most of my attention will be devoted to the question of the techno-formed sensitivity within the Internet culture, for we have been witnessing new forms of “virtual sensitivity” (virtual viewing, hearing and touching and a virtual sense of telepresence and remote activities)».

<sup>1</sup> NATIONAL ICT AUSTRALIA LIMITED (NICTA), Theme: *Intelligent Systems. Statistical Machine – Learning*, in «Internet» 2005, [http://nicta.com.au/uploads/documents/Statistical\\_Machine.pdf](http://nicta.com.au/uploads/documents/Statistical_Machine.pdf): «Hallmark of an intelligent system is that it can learn. Certainly, the development of ICT products and processes that are more usable, able to hide their sophistication behind simpler interfaces, that can make use of the information in vast databases, and that adapt to different environments and different users, will require machine-learning technology. Statistical machine learning can be viewed as an outgrowth of classical signal processing, statistics and pattern recognition. The techniques used now are much more diverse and include methods to solve problems going far beyond classical pattern recognition. It is an essential technology to deal with data glut, for instance, to find structure in datasets and to find unusual events».

<sup>2</sup> SINGAPORE GOVERNMENT, *Equipping public officers. For an e-Government through ICT Education*, in «ISSUE», 6 August 2002, etiam in «Internet» 2005, 69CE062ACAD9/0/E\_GOVERNEMENT\_NEWSLETTER\_AU.PDF: «Wireless technology is about delivering the Internet to an individual without the need for wires and desks. It is about knowing who the individual is, where he or she is, and what he or she needs to know most urgently... Currently, wireless adoption has mainly been in the area of government informational services such as policies, frequently asked questions, operational hours and directory lists, which may not require a high degree of security and transactions. The advantage of beginning with informational services is to allow government employees and the public to be accustomed to using their mobile devices for accessing government services in preparation for new and more feature rich services. However, as mobile technology evolves and expectations rise, it would be pertinent that the public sector continues to keep up with new technology to maintain the high standards of its services available today. It would not be too long when accessing government services through all kinds of wireless devices is the way of life».

<sup>3</sup> I. Arminen, *Mobile media and communication – reconfiguring human experience and social practices?* (SPECIAL ISSUE), in «Psychology Journal», in «Internet» 2007, [http://www.psychology.org/File/CFP/PNJ\\_CFPmobile.pdf](http://www.psychology.org/File/CFP/PNJ_CFPmobile.pdf): «Mobile media have already become an essential aspect of everyday life. They alter existing communication patterns, enable new kinds of contacts between people, and yet remain embedded in prevailing social relations and practices. Mobile communication has said to have created “timeless time” and freedom from place. This new social and communicative development has been characterized revolutionary. Still, the usages of mobile technologies are solidly anchored on local circumstances and prevailing forms of life. Also not all mobile technologies have proven successful».

<sup>4</sup> H. Pigeat, *Ethique des médias et révolution de l'Internet*, Rome 2001 (pro manuscripto – Centre culturel Saint-Louis de France), p. 17 : «Par une curieuse ironie, l'éthique débouche au XXI<sup>e</sup> siècle sur une question de société. Alors qu'on avait voulu, depuis le XVIII<sup>e</sup> siècle, la confiner à la sphère privée, elle s'impose au centre de la sphère publique. Ce retour de l'éthique est la conséquence de la fin d'une certaine idée de progrès. Pour la première fois depuis deux siècles, la science change de signification. Après s'être bornée dans l'antiquité à tenter de comprendre la nature, elle a ensuite produit des techniques qui permettaient à l'homme de s'y adapter, avant de s'engager plus tardivement dans la transformation même de la nature. La science continue à progresser, mais en osant transformer la nature, elle engendre une inquiétude fondamentale. La conviction qu'elle serve le bien-être et le bonheur humain n'est plus certaine. Plusieurs domaines illustrent cette inquiétude. Les formes modernes d'énergie ont fait reculer les limites des forces humaines, mais cette énergie paraît difficilement contrôlable et en revanche certainement destructrice de l'environnement. La biologie a rendu plus forts les végétaux, les animaux et êtres humains. En touchant à la vie, elle semble toutefois avoir réveillé la malédiction de Prométhée puni pour avoir volé aux dieux le feu, c'est-à-dire la science et la technique. Les nouvelles techniques de communication soulèvent un problème comparable. Le traitement numérique de l'information donne à l'intelligence humaine des capacités centuplées de rassembler et comparer les données. Il superpose aussi au monde réel, un monde «virtuel», c'est-à-dire artificiel, et qui n'est plus complètement celui de l'être humain. Dans ce domaine comme dans les autres, une sensation de vertige s'ouvre devant la puissance des nouveaux outils, devant les incertitudes qu'ils engendrent et devant la difficulté de les maîtriser. La solution ne relève évidemment pas de lois».

<sup>5</sup> S. Vaknin, *The Professions of the Future*, in «Internet» 2006, <http://samvak.tripod.com/nm029.html>: «*The Fragmentation of Society*. Initially, society was composed of very large units. People belonged to tribes “nations”. These were groupings of up to hundreds of thousands of people. They felt amply defined by this belonging. Nothing was left out when you said that a certain person was “Hebrew”. Nothing needed to be added. Stereotypes were more than sufficient and, usually accurate. Later, the concept of family fully emerged. First, in a very extended form: the family comprised a few generations and all removed family (blood) connections. Gradually, the family shed more and more layers. People began to be called by family names only 250 years ago. The nuclear family was an invention of the 19<sup>th</sup> century, when the industrial revolution and modern methods of transport and communication broke families apart. Even this relatively small units came under a debilitating attack in the last 50 years and the nuclear family underwent a nuclear implosion, it disintegrated. Today, the basic unit of society, its cell, its atom, is the individual. People will tend to isolate themselves: stay more at home, work from it with flexitime, form and break up short term attachments to other humans or be engaged in non-committal activities with others, activities which will not threaten their absolute freedom and mobility. Solitary media will be predominant: the Internet is a one-user medium (television was a family medium)».

## *A acessibilidade universal da Internet dá possibilidade de ação à quem é portador de necessidades especiais*

Pessoas limitadas pela cegueira ou de outras limitações corporais ou fisiológicas adquire pelo acesso aberto e adaptado da Internet uma paridade de comunicação com os não portadores de necessidades especiais<sup>1</sup>. Aparentemente despersonalizada como tecnologia, aqui se oferece uma maior humanização a quem está privado dela. Indicar-se-á os administradores dos serviços que não sejam limitados destas modalidades até “hardware” (*ibidem*).

## *A ciberpirataria com novo potencial*

Diante da situação “pré-internetiana”, parece que seja sobretudo a superação dos limites do tempo e do espaço a oferecer novos horizontes à criminalidade, principalmente, no percurso a distância<sup>2</sup>.

## *Os altos e baixos da interatividade*

Os críticos da potencialidade da Internet estão contra antes de tudo a pretensão interatividade, na ambição de substituir a inter-pessoal (outra vez a argumentação dualista, cfr supra)<sup>3</sup>.

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<sup>1</sup> HUMAN RIGHTS AND EQUAL OPPORTUNITY COMMISSION, AUSTRALIAN HUMAN RIGHTS AND EQUAL OPPORTUNITY COMMISSION (HREOC), *World Wide Web Access: Disability Discrimination Act Advisory Notes. Version 3.2. August 2002*, in «Internet» 2006, [http://www.hreoc.gov.au/disability\\_rights/standards/www\\_3/www\\_3.html](http://www.hreoc.gov.au/disability_rights/standards/www_3/www_3.html): «In its most general sense, accessible web design refers to the philosophy and practice of designing web pages so that they can be navigated and read by everyone, regardless of location, experience, or the type of computer technology used. Accessible web design is most commonly discussed in relation to people with disabilities, because this group are most likely to be disadvantaged if the principles of accessible web design are not implemented. Failure to follow these principles can make it difficult or impossible for people with disabilities to access web pages. Tim Berners-Lee, the inventor of the Worldwide Web and Director of the W3C Consortium, has commented that "The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect." There are important similarities between designing for accessibility of the physical environment and designing for accessibility of the Worldwide Web. Accessibility of buildings and other aspects of the physical environment is best achieved through careful planning and attention to detail, rather than by adding accessibility features at the end of the design process. In a similar way, creating accessible web pages should be an integral part of the web design philosophy, and accessibility features should be incorporated into all aspects of the design process. Testing for accessibility should also be incorporated into any and all user testing regimes, and should never be seen as an isolated event that can occur after other user testing has taken place. Designing for accessibility is thus as much a strategic issue as a purely technical one. Accessibility does not require that all pages be limited to plain text. More sophisticated and innovative pages can and should also be made accessible. In general, this involves provision of alternatives to an otherwise inaccessible feature, rather than any requirement to avoid innovative design».

<sup>2</sup> UNIVERSITY OF LEEDS. DEPARTMENT OF LAW, *Cybercrime. Computers and crime in the information age*, in «Internet» 2006, <http://www.leeds.ac.uk/law/lawmods/cybercri.htm>: «The internet has had three different levels of impact upon criminal, or harmful activity. Firstly, it has become a vehicle for existing patterns of harmful activity, such as hate speech, bomb-talk, stalking and so on. Secondly, it has created an environment which provides new opportunities for harmful activities that are currently covered by existing criminal or civil law, examples would include paedophile activity, but also fraud. Thirdly, the nature of the environment of cyberspace, particularly with regard to way that it distanciates time and space, has engendered entirely new forms of (unbounded) harmful activity such as the unauthorised appropriation of imagery, software tools and music products etc. Each is linked to the increasing commercial potential of cyberspace and in turn, are part and parcel of the emerging political economy of information capital. It is clear that across these three levels of impact lie four broad areas of harmful activity which are raising concerns. They are cyber-trespass (hacking which ranges from ethical hacking to information warfare), cyber-thefts (fraud, appropriation of intellectual property etc), cyber-obscenities (pornography, sex-trade), and cyber-violence (stalking, hate-speech etc)».

<sup>3</sup> St. L. Talbott, *Can Human Ideals Survive the Internet?*, in idem, *The Future Does Not Compute: Transcending the Machines in Our Midst*, New York 1995, Ch. 1, etiam in «Internet» 2006, <http://www.praxagora.com/stevet/fdnc/ch01.html>: «False comparisons. Many people assume that computer technology is leading us out of the television wasteland, "because now everything is interactive." But this overlooks almost the entire significance of interactivity, which enables us to put the video screen to extensive new uses. We couldn't do our banking or coordinate our engineering projects by television; with the computer, we can. The important thing about interactivity is not that it redeems old forms of entertainment (it doesn't), but rather what it does to the new activities now being adapted to the video screen. Making sitcoms interactive will not lead to cultural transformation, but there's every reason to expect, for example, that moving local, face-to-face politics online will tend to change the character of those politics *in the direction of* what we've already seen happen to televised politics. Interactivity, in other words, does not salvage the preexisting wasteland, but it may well reduce huge tracts of once-thriving adjacent territory to semiaridity. The argument based on interactivity would have us say, in effect, "Look how much greener than the desert this new, semiarid land is!" Meanwhile, by means of the computer, concrete human activity itself is invited toward passivity, automatism, and lowered consciousness. This is a momentous development. The sleight of hand in the argument about interactivity is repeated on many fronts. To cite one other example: the informality of much computer-mediated communication is often seen as a recovery of the direct, the personal, the participatory, the emotionally expressive. Many observers, contrasting this "new orality" with formal or "literate" communication, see the computer carrying us back to earlier, more vivid and personalized forms of human exchange. But the relevant comparison is not between oral and literate. It is between the genuinely oral communication that once took place face- to-face, and the "secondary orality" now electronically replacing that communication. Here we see the computer's influence running exactly counter to the usual thesis: informal communication is tending toward the abstract, disengaged, and remote, with feeling conveyed indirectly through the artifice of written expression, and participation unavoidably constrained by the narrower channel. I should add that the ease with which this sleight of hand succeeds-- and anyone willing to spend time perusing a selection of Net discussion groups can quickly verify the success -- is itself testimony to an idealism loosed from reality».

## *A paridade eletrônica a distância dos atos administrativos*

O reconhecimento legal da firma eletrônica a par da firma manual no suporte papel validará a capacidade de administrar iniciativas em vários níveis e setores da convivência humana<sup>1</sup>.

## *A segurança e a proteção do acesso operante de todos*

Por muito tempo se considerou a segurança e a proteção do acesso convergia com o sigilo da legítima modalidade de uso. Os “hackers” não devem tentar outra coisa que apoderar-se de uma legítima modalidade (de modo fraudulento) para entrar nos programas e administrações<sup>2</sup>. Se caminha em direção aos sistemas de contínuo monitoramento da rede sobre a base de acordos entre companhias de serviço com um organismo de controle (Adaptive Network Security Alliance (ANSA))<sup>3</sup>. A autenticação através dos sistemas biométricos exige que o procedimento possa ser desenvolvido com a máxima rapidez<sup>4</sup>.

## *A reciprocidade no livre acesso de “parasitismo”*

Lá onde o serviço é pago ou em intercâmbio, a reciprocidade no self-service da rede permite perceber o sentido da “parasitismo”: não aproveitar da “mesa pronta” mas usar o “ruído” relacional

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<sup>1</sup> GOVERNMENT PUBLIC RELATIONS AND MEDIA OFFICE OF SLOVENIA, *Slovenia - First Among Eastern European Countries in Development of Telecommunications*, in «Internet» 2006, <http://www.uvi.si/eng/slovenia/background-information/telecommunications/>: «The Act stipulates that all summary procedures in the general administrative procedure can be administered in electronic form, which enables the ordering of certain certificates from one's personal computer at home. This is a big step forward in the dealings of the government administration with citizens. The most important purpose of the Act is to make electronic operations legally equivalent to today's traditional paper operations and, under certain circumstances, to give an electronic signature the same legal force as a hand-written signature has in the paper world. At first the adoption of electronic government administration will allow the ordering of documents like the citizenship certificate and register of births certificate, with more to follow on later. The adoption of the Electronic Business and Electronic Signatures Act will give the Slovenian economy and government administration an important competitive advantage since it puts Slovenia among the first ten European countries with the necessary legislation for e-business operations according to EU rules. There are more than 100 companies in Slovenia that are actively involved in the field of information technology and together they create 2 - 4 % of the gross domestic product. After Slovenia's independence in 1991 the Telecommunications Administration of the Republic of Slovenia was established within the Ministry of Transport and Telecommunications».

<sup>2</sup> Ch. Adetokunbo Shoniregun, *The Future of Internet Security, Should common security technologies be blended with biometrics for accuracy and reliability?*, in «Internet» 2004, [http://www.acm.org/ubiquity/views/c\\_shoniregun\\_1.html](http://www.acm.org/ubiquity/views/c_shoniregun_1.html): «For centuries, security was synonymous with secrecy. The shared secret between two parties conducting business was a worldwide approach. But secret passwords require a great deal of trust between parties sharing the secret. Can we always trust the administrator or other users of the Internet network service provider that we access? Most computer break-ins today are due to compromise by system users or hackers who use legitimate accounts to gain access to general security. Determining the identity of a person is becoming critical in our vastly connected information society. As a large number of biometrics-based identification systems are being deployed for many civilian and forensic applications, biometrics and its application have evoked considerable interest».

<sup>3</sup> Ch. Adetokunbo Shoniregun, *The Future of Internet Security, Should common security technologies be blended with biometrics for accuracy and reliability?*, in «Internet» 2004, [http://www.acm.org/ubiquity/views/c\\_shoniregun\\_1.html](http://www.acm.org/ubiquity/views/c_shoniregun_1.html): «The future of Internet security, therefore, resides in human intervention and innovation. Implementing hardware and software solutions, as well as using human intervention to continually monitor the network, are two of the best ways to keep abreast of attacks from the outside. One of the latest technologies in the security market, which was introduced at the NetWorld + Interop trade show in Atlanta, is a technology called adaptive security. This development is a result of Internet Security Systems' (ISS) formation of the Adaptive Network Security Alliance (ANSA) around an application program interface for its real secure intrusion detection system [3]. The technology requires the enlistment of major infrastructure vendors, such as 3Com, Lucent, Compaq, Entrust and Checkpoint, to enable their products to talk with ISS's intrusion detection monitors. By communicating between ISS's monitor and the vendor's products, firewalls and switches could be reconfigured in response to perceived break-ins, thereby diminishing the lag time between detection and prevention and ultimately, making the network virtually impossible to penetrate».

<sup>4</sup> Ch. Adetokunbo Shoniregun, *The Future of Internet Security, Should common security technologies be blended with biometrics for accuracy and reliability?*, in «Internet» 2004, [http://www.acm.org/ubiquity/views/c\\_shoniregun\\_1.html](http://www.acm.org/ubiquity/views/c_shoniregun_1.html): « Biometrics has been used for years in high-security government and military applications, but the technology is now becoming affordable for use as a network authentication method and general security feature. It is tempting to think of biometrics as being sci-fi futuristic technology that we should in the near future use together with solar-powered cars, food pills, and other fiendish devices. There are many references to individuals being formally identified via unique physiological parameters such as scars, measured physical criteria or a combination of features such as complexion, eye colour, height, etc. Automated biometrics has been in existence for more than 30 years now. As we know, matching fingerprints against criminal records is important for the law enforcers to find the criminal. But the manual process of matching is very tedious and time-consuming. In 1960s, the Federal Bureau of Investigation (FBI) in U.S. began to automatically check finger images and by 1970s a good number of automatic finger-scanning systems had been installed. Among these systems, Identimat was the first commercial one. The system measured the shape of the hand and looked particularly at finger length [1]. Its use pioneered the application of hand geometry and set path for biometric technologies as a whole».

([1] Zhang, D.D., (2000) 'Automated Biometrics Technology and Systems', Kluwer Academic.)

(parasitas) fazer disto um sistema relacional que abre a uma economia da gratuidade <sup>1</sup>. É o relacionamento que cria a oportunidade e não a coisa em si com os seus condicionamentos de propriedade e de apropriação.

### *As perturbações mais incisivas: os vírus operativos*

Os estudos sobre o fenômeno dos vírus que circulam na rede levam a uma constatação significativa: parece que os vírus informáticos mais perigosos pertencem à especificidade “operativa”, ou seja, desviando o modo impostado de agir de modo informático (com os vírus do início como sub-categoria) <sup>2</sup>. Os vírus que confundem os sistemas operativos se afirmam mais do que aquilo que se poderia chamar de “vírus do saber” ou “vírus da emocionalidade”

## 3° A NOVA COMUNICAÇÃO COMO ESTRATÉGIA AUTOGESRIDA DA EXPERIÊNCIA HUMANA ULTERIORMENTE ARTICULADA



Se a “multimedialidade” não se reduz a uma descarnada “instrumentalidade” extrínseca na experiência humana, qual será a dinâmica da comunicação e qual será o impacto “estratégico” para pessoa e a comunidade? Existe uma “estratégia” na Internet e nos ICT? Vimos como a capacidade comum da digitalização em cada setor comunicativo específico de levar a gestão convergente da “multimedialidade” (cfr supra) e introduzir uma necessária liberalização em função desta convergência<sup>3</sup>. Para responder, é necessário o significado da palavra “estratégia”. Ela não é um

<sup>1</sup> M. Giesler – M. Pohlmann, *The Anthropology of File Sharing: Consuming Napster as a Gift*, in «Internet» 2006, <http://ygourven2.online.fr/webcom/markus-giesler/gieslerpohlgift.pdf> (p. 7): «Napster’s ideology of exchange may be better understood employing Michel Serres’s (1980) concept of the parasite. “To be a parasite means to eat at somebody else’s table” (p. 17). This does not only apply to the Napster phenomenon as a whole regarding its relation to the recording industry in general but to Napster’s mode of exchange in particular. Parasites, following Serres in his relevant study, are indispensable whenever the noise of new conditions has to be translated into a system of relationships. They are lured by the noise and usefully produce a usable sense in a previously senseless environment (Baecker 2001). “The parasite is ‘next to’, it is ‘with’, it is detached from, it is not sitting on the thing itself, but on the relation. It has relations, as one says, and turns them into a system. It is always mediate and never immediate. It has a relation to the relation, it is related to the related, it sits on the channel.” (p. 64-5) In Napster’s parasitic economy driven by gift exchange consumers enrich themselves; they assume the role of host, troublemaker and parasite at the same time».

<sup>2</sup> R. Robertson, *Computer Viruses and the Human Mind*, in «Internet» 2006, <http://www.goertzel.org/dynapsyc/1997/virus.html>: «In the discussion that follows, I will consider “boot segment” viruses as a sub-set of “operating system” viruses, since I don’t believe there is an equivalent to the boot segment in the human psyche (i.e., this is a small program which tells the computer how it can load the main operating system). But we have already seen that, even if we treat it only as a metaphor, the human psyche has equivalent abilities to the operating system and the application programs. So it is likely that the human psyche can be attacked much as viruses attack those components of the computer software. Operating system viruses replace some or all of the operating system with their own program code, then hide the normal operating system where they can get at it when needed. When any normal requirement is made of the operating system, say reading a file, the virus intercepts the request, and then sends it to the hidden operating system to perform. As far as the computer operator is concerned things look normal. Application program viruses are similar, except that they can attach to many types of programs. These programs don’t have as much power as the operating system, but there are many more of them. So far, there is nothing particularly harmful about the behavior of the virus. All it does is add a minuscule amount of extra work to the system by intercepting requests to the operating system. But remember that the primary purpose of a virus is to replicate itself. Once safely occupying the former place of the operating system, the virus is ready to carry out that primary purpose. It looks for other programs to which it can attach copies of itself. If it is stupid and greedy, it will try and propagate indiscriminately, hooking onto any program that offers it a suitable environment. If more intelligent, it will only clone itself off to a small number of other programs. In general, it will look for a chance to spread to another computer. For example, if a floppy disk is inserted into the originally infected computer, it will find a program to connect to. When that floppy disk is used in another computer, the virus will clone itself off onto that computer in turn. Note that there is still nothing drastically wrong in the action of the virus. All it is doing is slightly draining the resources of the computer it has invaded. It is merely functioning as a parasite on a larger organism. Innumerable examples of such behavior abound in animal life. In the case of many viruses, this is all they were ever intended to do. Unfortunately, computer programmers are no more infallible than the rest of us, and therein lies the rub».

<sup>3</sup> A. Gillwald, *National Convergence Policy in a Globalised World. Preparing South Africa for Next Generation Networks, Services and Regulation. LINK Centre Policy Research Paper No 4*, in «research.ICT.africa.net», in «Internet» 2008, <http://www.researchictafrica.net/modules.php?op=modload&name=News&file=article&sid=209>: «Convergence is driven by the technological and economic drivers of digitisation and liberalisation. Digitisation is what makes possible the convergence of the historically separate platforms for broadcasting and telecommunication. The liberalisation of markets is what has driven the development of global digital communication networks offering multiple services across national borders. This has undermined traditional modes of communication and their associated economies of scale and scope offering a communications environment that is more international on the one hand and more fragmented, niched and competitive on the other. While convergence most commonly refers to the integration of the previously distinct industries of broadcasting, telecommunications and IT, it is also evident within industries themselves such as the convergence between mobile and fixed telecommunication services which historically have been treated as discrete market segments. In fact,

“mecanismo”: ou o funcionamento “do mercado econômico liberal auto-gerenciada e auto-regulado” – ou nem mesmo “o intervencionismo quando os governos dirigem os seus mecanismos”, mas faz parte da “inteira dinâmica da tentativa humana<sup>1</sup>, através dos impulsos “comunicacionais”<sup>2</sup>. Na globalização, o capital rende independente da produção e do trabalho. Com isto não se tem uma maior justiça mas os super-potentes tornam-se ainda mais fortes. Ou –em outras palavras- a liberdade desenfreada só do capital sufoca a liberdade humana, faz desabar a democracia.

### *A possibilidade tecnológica de regulamentar os “conteúdos” digitalizados dos ICT em rede*

Com a convergência operada na base da digitalização dos programas e das produções, torna-se quase impossível exercer um controle efetivo sobre os “conteúdos” ou de regulamentá-los, tendo em vista as várias restrições<sup>3</sup>.

### *O reducionismo tecnológico e a incidência “pluricultural” da nova comunicação*

Sabe-se que a introdução das comunicações multimedias a distância no âmbito da pesquisa antropológica foi julgada algumas vezes como “reducionismo tecnológico”, mesmo se é sem dúvida inegável o impacto das tecnologias – particularmente das tecnologias da informação (IT) – sobre a pessoa e sobre a comunidade humana, ou melhor, sobre a experiência humana geral<sup>4</sup>. Mas há também analogias que se destacam entre a conectividade “internetiana” e a relação entre a pessoa humana e o seu ambiente natural ou entre ambiente natural ou seres humanos: por exemplo, a “contágio” pelo vírus biológico ou o analogamente pelo vírus informático, que se reproduzem e se

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although this paper will focus on convergence in the communication sector, convergence in this sector allows for convergence of all knowledge and transaction based service industries, including finance, education and health. This is an important consideration in ensuring the policy integration needed to order to optimise the benefits associated with converged services and infrastructures».

<sup>1</sup> F. Colombo, *La carovana e il suo confine (L'industria culturale: promozione od ostacolo al dialogo tra culture?)*, in UNESCO – CENTRE DE RECHERCHE “JACQUES MARITAIN”, *Comunicazione e politiche interculturali per il dialogo e la pace*, Roma 2000, p. 16b-17a del testo distribuito: «L'ambiguità dei processi di industrializzazione della cultura. La seconda questione riguarda l'ambito specifico delle problematiche che abbiamo affrontato: esso è quello del mercato culturale, e in esso vale naturalmente lo scontro mai sopito fra fautori del liberismo e fautori di governo politico dei processi, con tutte le varianti (a volte assai diversificate) di tali posizioni. Vorrei dire, molto semplicemente, che - se ritengo opportuno sottolineare di nuovo che non vi sono ragioni teoriche per interpretare la funzione dell' industrializzazione come di per sé regressiva o peggio ancora repressiva - non mi pare che questa possa significare cadere nell'idea del tutto paradossale di affidare ai meccanismi del mercato la sopravvivenza e in vitalità delle culture. Il motivo per cui non ritengo che ciò sia possibile riguarda la natura stessa delle culture, che non esauriscono mai la propria funzione nella pur inevitabile mercificazione del processi e dei prodotti che impacchetta per così dire gli oggetti culturali in oggetti economici».

<sup>2</sup> G. Ryle, *The Concept of Mind*, Harmondsworth 1978, p. 79.

<sup>3</sup> A. Gillwald, *National Convergence Policy in a Globalised World. Preparing South Africa for Next Generation Networks, Services and Regulation. LINK Centre Policy Research Paper No 4*, in «research.ICT.africa.net», in «Internet» 2008, <http://www.researchictafrica.net/modules.php?op=modload&name=News&file=article&sid=209>: «Some of the fundamental aspects of content regulation such as restrictions on content are almost impossible to deal with in a converged environment and ownership limitations may have the effect of restricting investment in network development or prevent network efficiencies that may benefit consumers. These factors will all require review in the new policy process».

<sup>4</sup> G. Houtman – D. Zeitlyn, *Information technology and anthropology*, in «Anthropology Today», Vol. 12, No. 3, June 1996, p. 1, etiam in «Internet» 2006, <http://www.therai.org.uk/pubs/at/editorial/zhoutman.html>: «Guest editorial from *Anthropology Today*, Vol. 12, No. 3, June 1996, pp. 1-3 To suggest that information technology (IT) – the branch of technology concerned with the dissemination, processing, and storage of information, especially by means of computers – might yet significantly shape the discipline attracts the accusation of technological reductionism. MacLuhan may be regarded, in today's language, as something of a `Nerd'. (1) Yet print-technology permitted the emergence of new religions and new scientific disciplines. Evidently, the more technology is integrated into everyday life, the less we seem to be paying attention to it for there are hardly any contemporary studies of the social and cultural effects of the technology of print. (2) There is considerable literature on particular roles for IT in anthropology, but very little of it focuses on the broad implications for the discipline. IT is making its impact felt on anthropology as a discipline at several different – but mutually dependent – levels. Apart from having become something of a sub-discipline in itself – e.g. as in the anthropology of cyberculture (Escobar 1994) – here we identify its impact on the discipline more broadly in terms of data, methodology, and subject-matter. The way we acquire, record, transmit and publish data has changed enormously over the last decade. This parallels the involvement of photography and film in the discipline in the early 1960s, and Polunin's summary of the state of visual anthropology in 1970 could serve for computing in the 1990s. (3) Just as uptake of devices such as small portable cameras and, most importantly, the portable cassette recorder, had radical implications for the conduct of anthropological research, so the portability of information technology facilitates not only collection of visual and aural data, but its integration with fieldnotes on a scale not previously possible. Such technologies truly facilitate the move from the verandah to the field and permit collection of a richer variety of data».

(1) `Nerd' is a term invented by Dr. Seuss in *If I ran into the zoo* in 1950, where it represented a small comically angry-looking and unpleasant humanoid creature – ‘And then, just to show them, I'll sail to Ka-Troo And Bring Back an It-Kutch a Preep and a Proo a Nerkle a Nerd and a Seersucker, too!'. Initially popularised in the 1970s as a reference to uninteresting persons, as the information technology revolution turned playful hippies into serious businessmen, later films such as *Revenge of the Nerds* granted them intelligence as bespectacled, but unathletic maths student wizards (in opposition to the athletic and sportive jovial `jock') who turn the world upside down with their wizardry. / (2) Eisenstein's magisterial start (1979) has not been followed up by similar anthropological studies. / (3) The role of computers in anthropology has been addressed as early as 1951 (Thieme), though the role of minesweepers is no longer discussed (Rowe 1953: 912). Fischer (1994:1-2) discusses the related theme of how distinctively `anthropological' computing in the discipline should be.)

auto-clonam<sup>1</sup>. Nasce todavia – apesar da relutância de alguns - uma “ciber-etnografia” baseada na pesquisa diversificada nos âmbitos a explorar<sup>2</sup>. Fala-se ainda da “netnografia”<sup>3</sup>. Falar-se-á também de ‘cibercultura’ em diversos sentidos<sup>4</sup>. As implicações que se colhem aqui é - obviamente – a avaliação do próprio teor da Internet no âmbito antropológico: só uma ‘tool’ com a qual jogar ou não se se tem vontade, ou no âmbito da experiência humana que se revela nisto e que interessa em todos os aspectos da vida humana?

### *A argumentação dualista*

A aproximação menos entusiasta sobre o fenômeno da Internet se insurgirá contra um otimismo fácil e isto não é certamente inútil. Mas frequentemente, atrás dela age uma tática mental que dualiza o cenário e a paisagem: se está dentro e se está fora... quem está dentro faz tudo sem estar lá como a televisão que permite ver tudo sem estar-se lá<sup>5</sup>. Se a Internet é o misto da inter-

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<sup>1</sup> R. Robertson, *Computer Viruses and the Human Mind*, in «Internet» 2006, <http://www.goertzel.org/dynapsyc/1997/virus.html>: «HOW DO COMPUTER VIRUSES WORK? Given that analogy between the human mind and the computer, let us look at the behaviors of computer viruses for analogies to problems with the mind. First, just what is a computer virus? John McAfee, one of the foremost experts on computer viruses, defines a virus as: a computer program created to infect other programs with copies of itself. It has the ability to clone itself, so that it can multiply, constantly seeking new host environments. That may be all it does—a single mission to replicate and spread from one system to another. Or the virus program may be written to damage other programs, alter data, and then perhaps self-destruct, leaving no evidence of itself behind, so that defenses cannot be developed against it. (McAfee & Haynes, 1990:1). Thus computer viruses are much like biological viruses: a half-way point between life and non-life. They have the minimum requirement of all known living creatures: the ability to replicate themselves. They have enough intelligence to recognize their environment as friendly or hostile, and to take corresponding action. I think most people who aren't familiar with computers would be astonished to be told that any computer program could do even those two things. If they knew the full extent of the astonishing facility displayed by computer viruses, I think that astonishment might change into fear, fear not only of computer viruses, but of the future of computers. But that fear should really be turned back on the mind doing the fearing, because it is subject to the same attacks as a computer».

<sup>2</sup> Kether, *LIFE ON THE BORDER: METHODOLOGY, CHAPTER 4. METHODOLOGY. 4.1. Ethnography*, in «Internet» 2006, <http://www.kether.com/words/thesis/method.html>: «Dr. Sherry Turkle (1995), in researching her own work, spent a great deal of time observing, in person, the way that people interact with computers. She worked in places like computer labs, classrooms, and scientific conferences. Turkle has chosen not to present her findings unless she has met the informant in person. Her reasons for this include: I made this decision because of the focus of my research: how experiences in virtual reality affect real life, and more generally, on the relationship between the virtual and the real. (Turkle, 1995: 324) However, she goes on to recognize that researchers with different aims may legitimately employ different methodologies: In this way, my work on cyberspace to this point is conservative because of its distinctly real-life bias. Researchers with different interests and theoretical perspectives will surely think about this differently. (ibid: 324) Anthropologist Steve Mizrach (1994), in his paper on Computer "hackers" and their language, presents an entirely different point of view. Because his research involved an underground group who were engaged in some illegal or quasi-illegal activities, he found it necessary to conduct his research entirely in the virtual. Beyond this, however, he suggests other reasons for doing so: From an emic perspective, many of our subjects do not distinguish between "real" life and "virtual" life. As good ethnographers and participant observers, we should not make such seemingly "etic" distinctions in the face of our informants. If they spend more of their waking time in cyberspace than in "real life", who is doing the more honest ethnography? The cyber-ethnographer, or the person who ignores that part of their life to which they devote the most time? ... As good cyber-ethnographers, we should be just as willing to examine the sociocultural relations in "cyber" society as we do in "real" society. ... Where people invest meaning, the anthropological interpreter should go; and people do invest great meaning into cyberspace. (Mizrach, 1994: 1-2) ».

<sup>3</sup> M. Giesler – M. Pohlmann, *THE ANTHROPOLOGY OF FILE SHARING: CONSUMING NAPSTER AS A GIFT*, in «Internet» 2006, <http://visionarymarketing.com/articles/gieslerpohlgift.html>.

<sup>4</sup> E. Ardevol, *Cyberculture: Anthropological perspectives of the Internet. Using anthropological theory to understand media forms and practices workshop Loughborough, 9th December, 2005*, in «Internet» 2006, [http://www.philbu.net/media-anthropology/lboro\\_ardevol.pdf](http://www.philbu.net/media-anthropology/lboro_ardevol.pdf): «Cyber-culture? What do we mean by "cyberculture"? When I decided to study Internet from an anthropological view, in the 90ties, the term "cyberculture" was on the arena. On one hand, people were using, and still use, the prefix "cyber" to refer to activities and social movements carried out through Internet, such as "cyberactivism", "cybercafe", "cyberart", etc. It seems that the word "cyberculture" pretends to be a new concept to put together all these activities. On the other hand, "cyberculture" was used by some scholars as a concept for understanding Internet impact on society, such as the proposal of Pierre Levy. Finally, "cyberculture" referred to a new interdisciplinary field of research, defined by the cultural analysis of communication and information technologies. My question then, was how to understand the multiplicity of studies that take a cultural perspective in their approach... The map of Internet galaxy studies has four attractors: a) Cyberculture as a new cultural model based on Internet technology, b) as an Internet emergent culture, c) as the cultural products developed in the Internet, and d) as a media form. These four elements are drawn down by using four coordinates or main trends in conceptualizing culture: culture as an adaptive strategy, as a system whole, as a symbolic order and as signifying practice. These different cultural perspectives also can be related with four principal focus of research in cyberculture studies: a) Internet as a technology, b) Internet as a new social context, c) Internet as a new creative and collaborative tool, c) Internet as a medium of communication (see table below). Let us see each constellation in more detail».

<sup>5</sup> St. L. Talbott, *Can Human Ideals Survive the Internet?*, in idem, *The Future Does Not Compute: Transcending the Machines in Our Midst*, New York 1995, Ch. 1, etiam in «Internet» 2006, <http://www.praxagora.com/steve/fdnc/ch01.html>: «A prison window. If the television has proven an ideal instrument for scattering and weakening my powers of attention and my ability to be fully present, the networked computer promises to challenge me more radically still. Where television leads me through an endless kaleidoscope of passive experiences without any possibility of my being "all there" in any of them (I cannot react in any normal way to the accident shown on the screen, so I learn to blunt my powers of presence and response), the computer invites me to carry out even the active business of my working and social life without being all there. I may revel in the fact that all of cyberspace, offering all its manifold transactions, is available through this small window on my desk. It is well to remember, however, that until recently most windows mediating the world to us in such a restrictive fashion had steel bars in them. Not many welcomed the prison. Some prisoners, it's true, have reported sublime experiences when catching a rare moment's glimpse of a bird through a narrow slit open to the sky. But it seems enough today if the window is glazed over with phosphors, so that we can divert ourselves unremittingly with the wonders of 3-D graphics, imagining that we are free to go wherever we wish. /1/ No doubt we can structure our lives and society so as to conduct all important business upon the surface of this small window. In outward terms, Vinton Cerf's claim may then become true: anyone disconnected from the Net will be isolated

pessoalidade e do relacionamento a distância, do online-offline, as coisas não se limitam a este dualismo: estar ‘dentro da prisão com uma pequena janela’ ou fora na vida autêntica (*ibidem*).

### *As dúvidas sobre a configuração humana “a distância”*

Uma das maiores interrogações nesta perspectiva é a possibilidade de “agir” sem incidência “imediatamente corpórea ou corporal”<sup>1</sup>. A “distância” seria o obstáculo prevalente para uma ação efetiva (concreta) através da Internet (sem envolvimento direto). O “espaço vizinho” parece essencial para toda experiência humana (autêntica)<sup>2</sup>. Os observadores têm individualizado certas “regiões” (âmbitos) da comunicação-experiência em que a prioridade do “cara a cara” não é mais condicionante para o indivíduo, precisamente na Internet (liberando-lhes das inibições impostas pelos relacionamentos diretamente controlados pela inter-pessoalidade)<sup>3</sup>. No enfoque antropológico, tudo em comunicação é distância a percorrer para alcançar os outros (cada cultura já é um “tecido

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from world community. But even then, we must hope there will remain someone for whom the world hidden behind the glossed-over window is not altogether forgotten. Someone for whom the bird-shaped collection of illuminated pixels invokes the faint memory of a living creature with seeing eyes and beating heart -- and for whom the difference between image and reality has not yet faded into mistiness. Someone for whom a routine financial transaction can still be an expression of trust. Someone for whom strong feeling has not finally been reduced to the vacuity of an email flame. One reason the computer's invitation to scattering -- like television's -- is so strong, is that everything appearing on the surface of this small window remains an abstract representation of the unseen world beyond the window. When the world is presented to us at such a great remove, we require a heroic effort of imaginative reconstruction to avoid slipping by degrees into a habit of treating the representations on the window surface in the half-conscious, reflexive manner typical of the video game player. There is good reason for thinking that television has made this effort of imaginative reconstruction more difficult. The computer, by letting us enter a gamelike world even while conducting our business, may be making the effort nearly impossible».

(1. For discussion of common issues presented by computers and television, see chapter 14, "Children of the Machine," and chapter 25, "What This Book Was About." )

<sup>1</sup> A. K. Tripathi, *Life and learning on the Net through the eyes of a philosopher. On the Internet: Thinking in Action*, H. Dreyfus, Routledge Press, 2001 [Paperback - 136 pages (March 2001), in «Internet» 2002, [http://www.acm.org/ubiquity/book\\_reviews/a\\_tripathi\\_2.html](http://www.acm.org/ubiquity/book_reviews/a_tripathi_2.html): «*On The Internet: Thinking in Action* raises the following questions: Can we leave our vulnerable bodies while preserving relevance, learning, reality and meaning? Does life on the Internet achieve Plato's dream of overcoming space and time as well as body? Drawing on philosophers such as Soren Kierkegaard, Friedrich Nietzsche, and Maurice Merleau-Ponty, the latest book by Hubert Dreyfus examines in detail the various perspectives of the Net through the eyes of a philosopher. In his criticism, Dreyfus explains that, in spite of its attraction, the more one lives one's life through the Net, the more one loses a sense of what is relevant, and so faces the problem of finding the information one is seeking. Also, in spite of the economic attraction of distance learning, such learning by substituting telepresence for real presence leaves no place for risk-taking and apprenticeship, which play a crucial role in all types of skill acquisition. Furthermore, without a sense of bodily vulnerability, one loses a sense of reality of the physical world and one's sense of trust in other people. Finally, he says that while the anonymity of the Net makes possible experimentation, the overall effect of the Net is to undermine commitment, thus depriving life of serious meaning. The book is divided into four chapters: In "The Hype About Hyper-Links," Dreyfus discusses the hope for intelligent information retrieval and the failure of AI. He shows how the actual shape and movement of our bodies play a crucial role in grounding meaning so that loss of embodiment leads to loss of relevance. In "How Far is Distance Learning from Education?" Dreyfus discusses the importance of mattering and attunement for teaching and learning skills, the phenomenology of skill acquisition, and the need for imitation in apprenticeship. Without involvement and presence we cannot acquire skills, Dreyfus says. The chapter "Disembodied Telepresence and the Remoteness of the Real" describes the body as a source of our causal embedding and attunement to mood. Dreyfus discusses how loss of background coping and attunement lead to loss of sense of reality of people and things. (I see something like you, but I don't see you and I hear something like you, but I don't hear you.) The final chapter "Nihilism on the Information Highway: Anonymity vs. Commitment in the Present Age" discusses in detail how meaning requires commitment and real commitment requires real risks. The anonymity and safety of virtual commitments online lead to loss of meaning. This chapter of the book is important for educators. Dreyfus challenges the popular view of the Internet as a global classroom in which anybody and everybody can participate in a process of so-called "hyper-learning." The Internet promotes risk-free anonymity and idle curiosity, both of which undermine responsibility and commitment. Dreyfus considers how the Net would promote Kierkegaard's two nihilistic spheres of existence, the aesthetic and the ethical, while repelling the religious sphere».

<sup>2</sup> E. T. Hall, *The Hidden Dimension*, New York 1966, p. 63: «Man's sense of space is closely related to his sense of self, which is in an intimate transaction with his environment. Man can be viewed as having visual, kinesthetic, tactile, and thermal aspects of his self which may be either inhibited or encouraged to develop by his environment».

<sup>3</sup> E. Brooks, N. Heyman, J. Pyon, *Social Interaction on the Internet: An Application of Erving Goffman's Sociological Theories*, in «Internet» 2002, <http://socserv2.mcmaster.ca/soc/courses/soc4j3/stuweb/cyber9/front.htm>: «Erving Goffman. It is quite common through our daily interactions, that we perform to our audience in specific regions, and through these regions, aspects of ourselves are seen. As Erving Goffman explains, there are two regions in which we perform. The first is the front region which is where the performance is given. Often, our activities within this region embody certain standards, these include matters of politeness and decorum. Politeness is how the performer acts in visual or aural proximity but not necessarily in direct conversation. (Goffman 107) It is through politeness and decorum that the individual maintains moral conduct that is socially accepted within society. In contrast to the front region, there is another region in which we perform. This area is commonly referred to as the backstage or back region and it is here that we see an opposite response. The backstage or back region is where our suppressed feelings make an appearance. It is where we knowingly contradict the actions carried out in the front region. Basically, Goffman's theory provides an explanation on how we interact with one another in day to day life and how we develop a system to help express feelings that conflict with our front. These methods help guide us in face to face interaction. But how do we act when we communicate and interact, but are not face to face? The Internet has led us to a situation where we are able to communicate and interact with people from a wide variety of backgrounds, cultures, and countries, without ever seeing their faces. When analyzing Goffman's theory relative to Cyberspace communication, we see that the lines between the front stage and back stage are blurred. When we look at issues such as anonymity, flaming, and privacy on the Internet, we see Goffman's work modified in order to express the ideas of front and back region performance».

de distâncias”<sup>1</sup>) para atravessar para instaurar uma proximidade (graças à chamada ‘proxemics’<sup>2</sup>) no seio do grande organismo da ‘massa’ (para além da simultaneidade do lugar e do momento, na base do relacionamento<sup>3</sup>). A distância é mais topográfica ou temporal: ela é um isolamento inter-pessoal oposto à relacionamento mediado<sup>4</sup>. O “espaço” deverá ser reconsiderado (distância como contexto de novas perturbações acústicas), isto é, diversas interferências no processo de transmissão comunicativa<sup>5</sup>.

A plataforma multimedial Internet põe também a questão dos relacionamentos humanos, inter-pessoais e a distância, no contexto da experiência humana geral. A superação dos limites de lugar e de momento vem acentuada pela potencialidade da Internet. Nasceria assim uma ‘não-localidade’, isto é uma ‘onipresença’ que pode ser concebida como área espiritual ou interpretada como conectividade mais veloz que a luz (de acordo com a pesquisa das ciências físicas)<sup>6</sup>. Opõe-se facilmente – neste prospecto- o âmbito “real” e o ‘virtual’ das relações humanas. A prática da Internet está agora abrindo a referência ao ‘real’ no sentido mais amplo, incluindo a modalidade virtual a distância – da maneira que é ‘domesticada’ pelo uso - com a localmente circunscrita na inter-pessoalidade num campo que pode ser estudado pela etnografia<sup>7</sup>.

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<sup>1</sup> ENCYCLOPAEDIA BRITANNICA, *Communication*, in idem, *Macropaedia*, Chicago 1979, p. 1008.

<sup>2</sup> A. Moles, *Écologie des actes*, in AA. VV., *Pour une anthropologie fondamentale*, vol. 3, Paris 1974, p. 169; J. Meyrowitz, *Television and Interpersonal Behavior: Codes of Perception and Response*, in G. Gumpert - R. Cathcart, *Inter/Media*, Oxford 1982, p. 223.

<sup>3</sup> E. M. Dickson, *Human Response to Video Telephones*, in G. Gumpert - R. Cathcart, *Inter/Media*, Oxford 1982, p. 289.

<sup>4</sup> J. Meyrowitz, *Television and Interpersonal Behavior: Codes of Perception and Response*, in G. Gumpert - R. Cathcart, *Inter/Media*, Oxford 1982, pp. 226-227.

<sup>5</sup> G. Gumpert - R. Cathcart, *Media and interpersonal Intimacy, Introduction*, in idem, *Inter/Media*, New York 1982, pp. 173-174: «The media, however, have made it necessary to rethink what we mean by space and environment. Space, defined as distance, is not relevant to a telephone call (until we receive the bill from the telephone company). There was a time not so long ago when a long distance call was accompanied by a lot of transmission noise. But every now and then the call would come through with such clarity that one would say, "It sounds like you're in the next room." It is now commonplace to extend our psychological, intimate selves as the physical space between ourselves and others has become irrelevant. If you live in an urban community, the chances are that you know very little about your neighbors, but are "intimate" with persons who live far from your neighborhood. It is likely that you have not visited a relative who lives in the same city in the recent past, but that you have seen Johnny Carson, Mery Griffin, and Dick Cavett, among others on a regular basis. This is not meant to chastise, but to point out the paradoxical effects that media have on all our close relationships. Now, we are all space travelers»; R. Escarpit, *Théorie de l'information et pratique politique*, Paris 1980, p. 94.

<sup>6</sup> N. F. McInnis, *THE FIRST INTERNATIONAL ELECTRONIC SEMINAR ON WHOLENESS, Time To Think The World Back Together*, in «Internet» 2004, [http://www.newciv.org/ISSS\\_Primer/seminar.html](http://www.newciv.org/ISSS_Primer/seminar.html): «Nonlocality is here to stay. The Internet reflects a recently discovered and mysterious quality of the universe, a quality of so-called "nonlocality." The term "nonlocal" was initially coined to describe observable and measurable interactions that seem to exceed the speed of light. For instance, certain influences of subatomic particles on other particles are instantaneous, occurring in less than the amount of time required for light to travel between them--as if the particles were telepathic. And in the cosmos at large, galaxies that are many more billions of light years apart than the universe is billions of years old respond identically to the same physical laws even though no signal could have traveled between them to convey the influence of these laws. According to the macrocosmic view of nonlocality, any particles that have once been in local relationship remain forever within each other's immediate influence, no matter how far apart they may drift. This suggests that everything has always been in relationship with everything else ever since the "Big Bang," the moment of cosmic origin during which all of the matter and energy in today's far-flung universe was initially localized at a single point. Universally distributed influences are termed "omnipresent" when they are considered to be spiritual. They are called "nonlocal" by those who conceive of them as purely physical. Regardless of what we may choose to call them, such influences by any other name are just as mysterious, and they are likewise just as lacking for an explanation within the limits of current scientifically ordained reality. Another type of omnipresence, or nonlocal everywhere-ness, is also characteristic of holograms in which the totality of the holographic image is present at every point».

<sup>7</sup> Liav Sade-Beck, *Internet Ethnography: Online and Offline*, in «International Journal of Qualitative Methods», 3 (2) June, 2004, pp. 9-10, etiam in «Internet» 2006, [http://www.ualberta.ca/~iiqm/backissues/3\\_2/pdf/sadebeck.pdf](http://www.ualberta.ca/~iiqm/backissues/3_2/pdf/sadebeck.pdf): «This conceptual difference creates a duplication of reality that is currently unacceptable, given the studies in the area of technology shaping society that examine how technology enters, and is gradually integrated into, people's daily lives (Lie & Sorensen, 1996). Studies in the field emphasize the process of “domestication,” the process in which people adapt new technologies and bring it into their home lives. This virtualization process is the third dimension of the domestication process in which we transfer life, actions and objects from the physical world into the virtual environment, thus making our very lives and homes into virtual lives and homes (Agren, 1999). Under these circumstances, the virtual world and the ‘real world’ merge, creating a broader definition of reality. Instead of relating to the features that distinguish the virtual world from the real world, we must adopt an approach focusing on imagination, associations and reciprocity between the two worlds. This approach can be expressed only through a re-examination of the fieldwork (Wittel, 2000)».

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