

The Information Society: Innovation, Legitimacy, Ethics and Democracy

In Honor of Professor Jacques Berleur s.j.

Edited by
Philippe Goujon
Sylvain Lavelle
Penny Duquenoy
Kai Kimppa
Veronique Laurent



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International Federation for Information Processing

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The Information Society: Innovation,
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(AAGénéraliste)

EAN: 9780387723808 IAS Morel Raymond
919 52163



226.50 Fr.

ENV 24-10-2007

Librairie Ellipse www.ellipse.ch
14, rue Rousseau 1201 Genève
tél: 022/909.89.89 Fax:022/738.36.48

ISBN 978-0-387-72380-8



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To Professor Jacques Berleur s.j. ...

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Leaving, dear Jacques is always to stay a little. Your work and your actions are only milestones along a long road, which you traced out early on, still far from the end. Your intellectual integrity was never willing to settle for "close enough". We are more moved – dear professor, dear friend – than we are able to show.

It is impossible to give an account here in an adequate manner of a career so complete and rich, containing so many accomplishments and achievements – inasmuch as I only recently arrived at the Institute for Informatics, and did not take part in this long institutional and intellectual effort. Outside the brilliant administrative career which saw you attain the highest responsibilities in our institution, where you carried out the duties of Director of the Institute for 5 years, serving also as Rector of the University for nine years, in the international organizations or in professional organizations and federations, intellectually you have been one of those who founded the field, today so important and prosperous, known as "informatics and society". It is still difficult to take account of such a vast domain, which includes aspects that connect it to law, to ethics, to politics, to philosophy, to sociology and even epistemology, it is enough to note that your contributions in all these domains have been numerous, fundamental, and brilliant. Your commitment to the defence of the idea of an ethical and humane informatics has never weakened. You have continued to fight against the idea of technical destiny, implying some sort of technical inevitability, continuing to evaluate a technology in the process of a stunning evolution on behalf of the idea of a technological democracy, ethical governance, and the possibility of a real social appropriation of information technology, all while never giving in to mere pragmatism nor to techno-economic rationalism, while continuing to seek protection for human dignity. The many missions you have engaged in, and the many, many miles you have travelled, all in accordance with your religious conscience, have also allowed you to connect fundamental research with fundamental social concerns, always on behalf of an informatics that serves man, all without falling victim on the other hand to the vertigo of utopias.

You have worked hard for the development of a humane informatics aware of its responsibilities; you have contributed much to the existence of a critical perspective independent of technical and economic determinism. You can be proud of the results obtained over the years, as of all your work. The hardest steps are yet to be taken, but you have clearly traced out the path to be followed.

The Institute has desired to pay you homage, dear Jacques, by pursuing not your work - for that would be quite presumptuous on our part - but indeed the problematic which has stimulated your work, by editing this book which represents the proceedings of a conference held in May 2006 in Namur marking the culmination of a series of research seminars "Communication and Society: technical reason, ethical reason, and democratic governance" held between February 2005 and May 2006.

This colloquium has been made possible thanks to a collaboration between the Institute of Informatics and the ICAM of Lille, France, with my colleague Sylvain Lavelle of the Catholic Institute for Arts and Trades (F) and through support from the Interfaculty Technology Assessment Group of the FUNDP, Namur (B), and with the support of the Center for the Philosophy of Law of UCL, in the person of Tom Dedeurwaedere, and in cooperation with the working group 9.2 of the International Federation for Information Processing (IFIP).

Foreword

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A conference to honour the professional life of Jacques Berleur has inevitably been a platform for debate on the most fundamental issues that pre-occupy the working groups of the IFIP Technical Committee 9 (TC9) on the 'Relationship between Computers and Society'. Jacques Berleur has of course been one of those few ICT experts who, since the 1970s, has tirelessly worked within the IFIP community to expose the nature of the ethical dilemmas of a society increasingly relying on the complex ICT infrastructures, to raise awareness of the social challenges this poses, and to influence action compatible with the ethical values of western democracy. And while Jacques, in the wake of his retirement from his university post is accelerating the pace of building his oeuvre, we can take the opportunity of this event to reflect on the critical stance towards the Information Society he has contributed to form within the TC9, which he chaired for many years.

The institutional location of TC9 has been a crucial factor for shaping the focus of its conferences, publications, and other activities. Formed within IFIP's fraternity of computer scientists and engineers in order to address the social implications of the technology they have been developing, the TC9 has for very long been – and in some working groups continues to be – acting as the 'voice of consciousness' of professional technology designers. It has been geared primarily towards creating awareness of the way ICT innovation impacts on human institutions and has aimed at cultivating a professional attitude of respect to societal norms and values. Within this context the concept of 'human choice' emerged as the focal slogan of TC9, initially referring to choice in the design and deployment of technology.

With this inherently optimistic stance of privileging human agency over imperatives of technological 'progress', TC9 has fostered a critical discourse towards technological innovation and socio-economic change that has in many ways grown beyond its initial mission of informing socially aware technology design. The unfolding socio-technical change brought along multiple new actors whose professional or private action choices contribute towards shaping the ICT-mediated institutions of the contemporary world. While choice in technology design continues to matter, political choice of governments and citizens, economic choice of investors, business managers, and consumers, as well as the everyday choice individuals

exercise in the way they live their lives, all came to be recognised at TC9 *fora* as contributing to the construction of the so-called Information Society.

A number of key principles of social critique set from the very first TC9 conferences continue to be relevant today: improvement of the quality of working life, avoidance of centralization of political and corporate power due to concentration of information in huge databases, safeguarding of privacy, avoidance of surveillance at the work place and society at large, promotion of democracy at the work place and society at large. But the contentious issues have become more complex at the age of the internet and globalization. Unprecedented opportunities for social and economic reform opened up with advances in ICT and the visionaries of the Information Society in Europe and elsewhere set a course of innovation that spans the domains of employment, government, education, health, and leisure, but they have been accompanied by greater risks of social destruction. With the threat of unemployment ever-present as jobs migrate under the conditions of competition of the global economy to work forces accepting lower salaries, issues regarding quality of working life are rarely addressed and social welfare provisions of the era of industrial democracy are considered a luxury that even the strongest modern economies ill-afford. Security vulnerabilities lead governments and management to deploy ICTs for surveillance, violating principles of privacy. Continuous technology innovation in competitive open market economies do bring growth, but also inequality and the world is tolerating conditions of extreme poverty for significant minorities in the advanced economies and vast populations in developing countries. Amidst the euphoria for the virtually unlimited circulation of information over the internet, panic was created about the 'digitally excluded'. Less fuss is made about the continuing large rates of illiteracy, and only a few scholars are concerned with the cultivation of the critical judgement required for somebody to make sense of the relevance, 'truth', or meaning of information available on the internet.

In this context of continuing socio-technical change the critical tradition of TC9 research and debate faces new challenges. The principles of choice, accountability and ethical conduct continue to be of utmost significance. But there is need to understand what is the scope and options of choice under the emerging socio-technical conditions. And the ethical dilemmas of a multicultural global society are in many ways more difficult than in culturally homogeneous national societies. Besides, how is accountability to be exercised at the age of ICT-mediated globalization? Is western-type of nation-state representative democracy still appropriate and viable? Are the more immediate forms of direct citizens' expression of choice enabled by ICT more effectively democratic? A testing case for many of the challenges of the emerging social order concerns the efforts made for the control of the very ICT infrastructure and the access to information it can potentially support, the so called governance of the internet. It is no surprise that this is now a major preoccupation for Jacques Berleur's critical might. It is now widely accepted that, though initially heralded for its anarchic technical nature and its potential for breaking through economic conventions for unlimited access to information without authority constraints and at virtually zero cost, the internet needs to be 'governed'. But how much and what kind of government is appropriate for the techno-information infrastructure of the contemporary global world? What aspects need to be controlled or safeguarded? Domain names? Intellectual property rights? The

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circulated 'content'? Access to available sites? Who should have governing powers? Nation state governments, economic actors, civil society bodies, or a mix of all of them? What is the basis for the legitimacy of internet governing power for each of them? How should the governing body be appointed or elected, and who should they be accountable to? Wouldn't its jurisdiction conflict with principles of national sovereignty? What mechanisms may be instituted for enacting and policing the decisions of such a supra-national governing authority? Such questions cannot be answered by abstract theoretical principles alone – indispensable as such thinking may be. There is no other way of making sense of the scope of choice but to engage with the unfolding events and realignment of actors, as Jacques Berleur does. This is what makes the discourse of the TC9 conferences part of the critical socio-theoretical tradition.

In short, the mission of TC9 has been broadened and changed as the socio-economic reforms ICTs are mobilized to enable have become increasingly more complex and radical. Its target audience now includes politicians, bureaucrats and NGO functionaries, managers, activists, and citizens at large. The ethical issues it studies implicate not only technology choices but also the shaping of a new socio-economic regime and the formation of new governance structures. The challenges are in many ways unprecedented and the techno-economic logic too confident and powerful to respond to critical investigation. The stakes for this community of discourse are raised higher. The issues that demand attention are complex and effective argumentation requires theoretical competence, empirical detail, and analytical rigour. But general argumentation, valuable as it may be, is not enough and TC9 has still to develop a think-tank role capable of addressing responsibly specific crucial questions and harnessing a more influential range of activities. Jacques Berleur, already engaging in action for a such as the WSIS, has a lot to teach us to that end.

General introduction

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Towards an Information Society

The impact of techno-scientific developments on societal evolution and lifestyles no longer needs to be demonstrated. The last half of the twentieth century in particular has witnessed a considerable acceleration of the integration of technological elements into the means of economic production and social life in general. The profound transformations that have taken place in the last few decades equally involve energy, transportation, construction, telecommunications, administration, medicine, pharmacy and agricultural sectors. The transformations are closely linked to techno-scientific developments in these various areas, and particularly to stunning developments in information and communication technologies. Yet the information society emerging in the contemporary period cannot be summed up simply as a series of technical mutations. This as yet unfinished global phenomenon, at once technological, economic, political and cultural, is in search of a social and a political project, references and reaffirmed values. We are faced with the task of building the world of networks on a cultural model incorporating clear collective choices, so that the principles of democracy are transferred on line - without loss - in the future.

The problem of restructuring the process of developing technical and scientific choices within an ethical perspective and democratic sphere arises in the context of this 'informationally-based' society. In a world full of doubt, technology becomes, or tends to become (despite an underlying suspicion to the contrary) the supreme reference of pragmatic and economic truth. Techno-scientific knowledge has a blinding effect by occultation in addition to factors such as purely and simply forgetting its possibilities, the viewpoint of universality and its meaning. Yet, short of admitting a total renunciation of reason, one cannot accept the social ideology at the source of the development of information technologies. This ideology consists in presenting the dynamics of technological conception and use as a sort of natural destiny, inexorably dragging humankind into a process of total rationalization accomplishing and annihilating modernity. The democracy that controlled politics has subsequently sought, and is still seeking, to discipline the economy. It has yet to control technological development. We should, first of all, understand that our

Please use the following format when citing this chapter:

Goujon, P., Lavelle, S., 2007, in IFIP International Federation for Information Processing, Volume 233, The Information Society: Innovations, Legitimacy, Ethics and Democracy, eds. P. Goujon, Lavelle, S., Duquenoy, P., Kimppa, K., Laurent, V., (Boston: Springer), pp. xv-xxiii.

technological destiny is not *outside of us but in us*. Thus, technical *hubris* calls for the setting of limits which have to be defined by societies, in choosing technical means adapted to the ethical ends they pursue. As the French Senate report on the information society reminds us, information technologies have now taken such an importance that they can no longer involve a management that is delegated to technicians alone. Hence it is incumbent upon us, according to the demands of *democracy* and *ethics*, to question the capacity of power and decision-making systems to solve the problems posed by the development of the information society - without succumbing to the ideology of a social determinism. In our reflections, it is hence a matter of determining the place of ethics more exactly in a regulatory context, as well as the relationship between ethics, rationality and technical innovation.

Democracy in Question

The democracy that controlled politics has subsequently sought, and is still seeking, to discipline the economy. It has yet to control technological development and, first of all, understand that our technological destiny is not *outside of us but in us*. Thus, technical *hubris* calls for setting limits which have to be defined by societies, in choosing technical means adapted to the ethical ends they pursue. As the French Senate report on the information society reminds us, information technologies have now taken such an importance that they no longer involve a management that cannot be delegated to technicians alone. Hence it is incumbent on us to question the capacity of power and decision-making systems to solve the problems posed by the development of the information society according to the demands of *democracy* and *ethics* without succumbing to the ideology of a social determinism. In our reflections, it is hence a matter of determining the place of ethics more exactly in a regulatory context, as well as the relationship between ethics, rationality and technical innovation.

The legitimacy of computer technology

It may well be that information and communication technologies (ICT) are being invested with unrealistic hopes and expectations in comparison to their real possibilities. Furthermore, the phenomenon of globalization which seems to ignore borders and national jurisdictions underlines the urgency of political regulation and an ethical vision of the "global information society". One of the problems raised by the legitimisation of technological innovations is linked to an inability to connect the technical justifications with social justifications in a coherent synthesis, in order to establish "socio-technical" justifications. The problem comes from the fact that taking into account certain social justifications (or the absence of justifications...) is not inconsequential for the technology itself. Construction of the social legitimacy of computer technology faces the problem of how to escape from a circular justification inside the technical ideology, that is, one that reduces all questions to the context of technical interpretation alone and thereby finding itself ensured of encountering no obstacle to the propagation of its own logic. There is a need for openness to other modes of "extra-technical" and economical justifications, able to found its social use

on a reflective examination not only of the utility, but also of the impacts, meaning and value of technology for society. It seems important to be able to evaluate the political and social role and the legitimacy of communication technology, and particularly of one technology – computer science – whose rationality, at once calculating, instrumental and reductive, shows its incapacity for incorporating the demand for meaning so characteristic of ethics. Perhaps it is time to "re-politicise" the area of social studies conducted on the sciences and technology, that has hitherto been quite taken up with the critical movements (movements for scientific responsibility, appropriate technologies, workshops on sciences, ecology and feminism...). By institutionalising itself in the 80's and 90's, this area has distanced itself from scientific and militant actors, at the price of weakening its capacity for questioning. However, since the field of Sciences, Technology and Societies (STS) studies the "social construction of sciences and technologies", why not benefit from this analysis and try to problematise the liaison between democracy, technological innovation, economics and information society?

The information society, politics and the common good

Information technologies have already deeply modified the means of production of goods and services; Internet use facilitates a direct and generalized relationship among the planet's ever more numerous inhabitants. These technologies exert considerable effects on the economy because of minimal reproduction costs, and may also lead to an alternative development of techniques, to re-centering technologies on their users and to the appearance of "new planetary common goods". If we learn how to get the best out of it, this mutation may bring on a veritable inversion of values, competition for cooperation, a hierarchy of informational conviviality. We cannot content ourselves with accepting the ongoing transformations towards the dominant economism and the climax of the productivism of an energetic era, as we do now. If we go down that route the informational era will lose all of its power for building relationships between cultures, as well as its essential potential values. These particularly involve its sustainable regulatory capacity and preservation of the future, fostering learning and the exchange of knowledge for the benefit of all. These problems demanding responsibility concerning the social and cultural integration of ICT question the possibility and conditions of a democracy being able to regulate the information society and question its legitimacy. It is not enough that a technology – or rather a technological order, because technology is a system – should have passed through a "democratising" procedure for it to be described as "democratic". Once set up, such a technological order must be substantially compatible with, or even favour, social relations of a democratic type. Hence we should provide our democracies with a series of criteria and prospective tools, thus helping them evaluate the compatibility of a given technology with democratic values, as well as its desirability in terms of the projects at work in a society – which should also be discussed. In the days of worldwide "cyberspace" we have to worry about the nature of public space and general interest and, from this point of view, the information society, as a project and a reality, needing to be questioned. In the present context, we often observe that the "autonomy" of science and technology, and the enclosure of its institutions in

relation to the rest of society (once considered the conditions for production of truths on the world and generators of human progress) appear as obstacles to the constitution of knowledge and valid innovations, in a world becoming more uncertain and controversial. If there is no technological determinism, there is nothing but new possibilities we can transform into "opportunities". Concerning ICT, it is up to us to take advantage of the new potentialities for regulation, co-operation and human development, but also to struggle against their counter-productive sides (such as precariousness, flexibility, real time, short term dictatorship, digital divide, insignificance).

For a Technological Democracy?

How is democracy going to impose itself within the world, given technological questions and developments, facing the obstacles it encounters (technicist logic, profit logic, power logic...)? What kind of democracy are we going to fit the governance of technological innovation into, without restraining the technical questions to an expertise that develops itself separately from societies, whilst introducing the ethical questions? How can we allow a democratic and ethical regulation of the development of techno-communications in the context of a project such as the information society? These questions are so much more urgent and sensitive since the borderline is thin between the risks of instrumentalisation and new opportunities for the democratisation of technological decision-making, between closure and openness, between the thoughtless self-proclamation of general interest by elected representatives and the dictatorship of lobbying and particularisms, between limits and excesses.

Which Approaches for What Ethics?

We should first of all realize the failure of a method that consists of basing every ethical problem on a sociological analysis of the functioning of a techno-scientific system and decision-making, all of which is related to a unified and reconciled normative framework where scientific truth founds good ethics. The failure of such a methodology flows firstly from the application to the explanatory social theory of premises of epistemological relativism applied to the technoscientific sphere; and secondly, from instituting wishful thinking as a method of choice; morals and ethics thereby amounting to choosing in terms of the dominant social values. In fact it is only beyond the finite totality that each domain of legitimacies, specific criteria, relevancies and truths constitutes that any ethics whatever may be - including those for an information society. Techno-science is limited to playing with its own rules; anything beyond that is just playing with the results of that game - whose rules are set freely. It is only in being aware of this fact that techno-science and its actors can experience a relationship of responsibility and move from knowing to knowing more, arousal to a life where the self awakens from dogmatic slumbers. In contrast to objective and rational knowledge, ethics can only come from without, short of "trivializing" the individual, and this awareness is the only chance for ethics. This

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problematic places demands beyond the dominant reasoning or economic approaches in terms of risks/benefits. It invites us to lay the foundations of a better governance of technoscience, by inviting us to ask about the significances of the legitimacies of ICT, by favouring the necessary institutional education and by avoiding a propensity to tie the politics of technologies to the question of risks or economic interest alone. It invites us to think differently about institutional experimentation in the area of democratic governance of innovation and to move beyond decision or technocratic models. It is possible, then, to build a common world based on a mosaic of identities, interests and rationalities present in complex societies, and to make uncertain and controversial situations governable.

Structure of the book

This book, dedicated to the governance of the Information Society, is organized in the context of such questioning. It is organized in five parts.

The first part 'Technology and Democracy: Views on the IS' introduces the subject of the Information Society.

Deborah Johnson, in '*Computer Systems, Ethics, and Democracy*', revisits the connections between the Internet and democracy. She conceives of information technology as socio-technical systems, as networks of artefacts together with social practices, social relationships, social institutions and values. The way she views computer systems helps to understand, at a deep level, how democracy can be affected by, and can affect, the design of computer systems. She describes how her thinking about technology and ethics has changed, and presents a new set of claims about the ways in which computer systems are and are not related to democracy and democratic practices.

Stefano Rodotà in his contribution titled *Democracy, innovation, and the information society* questions the relationship between the development of information communication technology and democracy. In our new technical world people can meet continuously in cyberspace; citizens can continuously access a tremendous amount of information; polls give continuous opportunities to be heard (or manipulated); electors can continuously pressure their representatives; the perspective of instant referenda implies the possibility of continuous consultation. Information and communication technologies make it possible. And some landmarks of the democratic process, election first, have already changed their meaning. What are the actual effects of these changes? Are citizens more powerful or only more manipulated and controlled? Is their voice becoming stronger or they are considered more and more only as numbered voices? Those questions are fundamental if we recognize, as Stefano Rodotà, that we are dealing with a new public space where the democratic process can be developed, rather than simply the substitution of the representative democracy by a direct one: so, electronic democracy cannot be regarded only as a new tool in an ancient, unmodified context.

Klaus Brunnstein, in *The Information/Knowledge Society as Risk Society*, demonstrates the vulnerability of the information systems and the ethical necessity of developing 'good practices' in this field. The information systems' losses and damages are due to the fact that Information Technology (IT) experts do not care sufficiently for the consequences of their design, products and usage. While some professional organisations have suggested some rules regarding the ethical behaviour of their members, contemporary curricula fail to include Ethics into the education of IT experts. "Good Practice" becomes even more important with the growing dependency of enterprises, organisations, governments and individuals on vulnerable and growingly interconnected IT systems.

In Part II 'Ethics and democracy into the ICT's' questions the relationship between technology, ethics and democracy.

Rene Von Schomberg, in his article *From the Ethics of Technology to the Ethics of Knowledge Assessment*, outlines the principle shortcomings of ethical with regard to the challenges of scientific and technological development. He makes a case for the need of an ethics of collective co-responsibility. He states that such an ethics should focus on the ethics of knowledge assessment in the framework of deliberative procedures, rather than on the ethics of technologies as such.

Matthias Kettner, in his contribution *Deliberative democracy : From Rational Discourse to Public Debate*, addresses the relationship between mass media and practices of deliberative democracy. Practices of public deliberation play an essential role in recent theorizing about democracy and, in particular, 'deliberative' democracy. However, little attention is usually paid to the role of the mass media in such practices of governance. The objective in this paper is to prepare a framework for the normative evaluation, criticism and appraisal of mass-mediated communication specifically in relation to the requirements of deliberative democracy.

Jeroen van den Hoven, in his article *ICT and Value Sensitive Design*, reflects upon how to behave morally with information technology: how to prevent harm to others, to improve the quality of life and to solve some of our hardest social problems. He sketches a conception of 'doing' responsible information technology. This approach is sometimes referred to as *Value Sensitive Design*. Value Sensitive Design assumes that human values, norms, and moral considerations can be imparted to the things we make and use. It construes information technology (and other technologies for that matter) as a formidable force, especially when we take the trouble of reflecting on its ethical aspects in advance.

Part III 'Governance of IS: From Economic Regulation to a New Social Contract' reflects on the limits of economic perspective to regulate the IS and on the necessity of a new social contract.

Vasileios Laopodis, in *Social Consequences of Information and Communication Technologies and the European Union*, discusses EU initiatives from a research and

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innovation policy point of view. He then analyses the need for designing and implementing a policy initiative at European Union level for promoting the positive impact of Information Society funded RTD and deployment results on other EU policies. Finally the paper presents the "Information Society policy Link" initiative and in particular its first year results and policy implications on social responsibility for employers, employees and the State.

Philippe Defraigne, in *Economy, industry, innovation, and technical democracy*, focuses on the forces that have shaped European telecommunications policy in the last 20 years and on the dichotomy between the objectives actually pursued by these policies and those presented to the European Parliament and the public at large. The paper first looks into the circumstances that lead to the liberalisation of the telecommunications sector and ponders the respective roles of the European institutions in that process. The second part describes how the European policy evolved from a policy aimed at liberalising the sector to a new form of industrial policy. The third part analyses some of the assumptions behind the Lisbon agenda as well as the correlation between the failure to reach the goals set by this agenda and the renewed focus on ICT. Finally, the paper explores some of the conditions that would lead companies to take a long-term view regarding their impact on society, policy-makers to address actual problems before pursuing technological solutions, and citizens to use virtual communication to foster interpersonal communication rather than as a substitute to it.

Eric Brousseau, in *When Economics Meets Ethics: the Governance of Economic Activities in the Information Society*, reviews the economic arguments calling for a regulation of the digital space. Digital Technologies make possible decentralized institutional frameworks based on self-implementation of exclusive rights of use over information and on the self-regulation of on-line communities. Through a decentralized system of Intellectual Property Rights and 'collective rules' setting of this kind agents would benefit from coordination frames well adapted to their specific needs and preferences. However, such a process can also result in inefficiencies. While becoming subject to exclusion, information and coordination spaces remain non-divisible goods. Moreover, individuals and groups could succeed in taking non-contestable control over 'privatized' information spaces. Brousseau underlines that an institution of last resort (placed above the agents and the self-regulated communities) should make enforceable constitutional principles. Its purpose would be to guarantee some fundamental rights to producers of information and knowledge and users of the digital infrastructure.

Tom Dedeurwaerdere, *The Institutional Dynamics of Sharing Biological Information : Towards reflexive governance of the information society*, seeks to contribute to building a framework for reflexive governance of the information society. The hypothesis is that new institutional economics as an interdisciplinary research program can provide some of the necessary tools for this framework and help us to understand how the reflexive feedback of actors and users on the social challenges of the new technologies can be embedded in the institutions of regulation. To test this hypothesis, he develops a specific case study on the building of the

microbiological commons. As his analysis attempts to show, the success of these initiatives in building both efficient and legitimate means of information sharing is dependent on a double reflexive mechanism embedded in the institutional rules: (1) organizing feedback of the actors and users on the institutional rules and (2) the building of common understanding amongst different stakeholder communities.

Richard Delmas, in *The Internet: New Principles of Political Right, New Social Contract*, underlines the need for a new 'social contract'. The Internet is now at the crossroads of the information and media spheres, at the juncture between private and public areas. Since the '90s, with the widespread use of the *web* and the domain name system the power to name, to identify, to search and to retrieve data on the Internet includes a deep societal and ethical dimension. Therefore one could identify multiple regimes of 'governmentality' of the Internet. As a background of further analysis, the recent two Summits on the Information Society organised by the United Nations and held in Geneva in 2003 and in Tunis at the end of 2005 have agreed on a series of texts. In this context, the impetus given to the bottom up '*multistakeholders*' approach will be successful if ethics, values and principles are put forward at the same level as any process of reflexivity. It is clear that the ambition and prospect of these texts and of the Agenda would need, in order to be effective and implemented, the formalization of common agreed principles and to set up adequate international instruments. In short this would imply a new *social contract* for the digital world.

In Part IV 'Applied Issues : Health, Profession and Education' develops a more applied perspective reflecting on the integration of an ethical perspective within e-health policy, professional issues within University Degree Courses and in methods of teaching.

Jean Herveg and Yves Pouillet, in *Which Major Legal Concerns in Future e-Health?* Stress a radical change of perspective in the development of new e-Health projects. Indeed these projects are no longer conceived as simple answers to well-identified and punctual needs. Today they are part of an Infrastructure Policy aiming at the establishment and the operation of real information highways in healthcare. The authors test the creation of these highways against four validity criteria: necessity, transparency, security and confidentiality, and quality.

Les R. Neal (and alii), in *Embedding Professional Issues within University Degree Courses*, address the British Computer Society's (BCS) requirements for accreditation with respect to the content and delivery of professional issues within UK Information Systems and Computing undergraduate degree courses. They discuss the professionalism required of BCS members in general, the requirements placed on computing degree programmes by the UK academic authorities and the specific requirements placed on such courses for them to meet BCS accreditation demands. They present the major issues that need to be addressed by the providers of the programmes and conclude by relating the success of the enterprise to its implementation through the application of self-regulatory and democratic principles.

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Bern Martens, in *IT, Ethics and Education: Teaching the Teachers (and their Pupils)* shows that, at colleges and universities, computer ethics has established itself as an integral part of computer science and information technology programmes. However, many of the issues involved are not only relevant to IT professionals, but also to IT users or even any citizens of our IT intensive society. It is therefore important that ethical issues in IT receive proper attention in secondary school, both in IT classes and other contexts. For this to be possible, firstly, educational policy and plans have to be adjusted. Secondly, teachers must get a thorough introduction to computer ethics, and learn appropriate teaching methods. Finally, teaching materials have to be developed and distributed.

The final section (Part V) 'For an ethical and democratic Governance of IS/ The lessons from the WSIS' takes a broader perspective and aims to reflect on the result of the WSIS (the World Summit on the Information Society) concerning the regulation and the framing of the Information society.

Yves Poulet, in *Internet Governance: Some Thoughts after the two WSIS*, explores new ways for the regulation of the Information Society. Traditionally, legislators are in charge of regulating the activities taking place within a society. Due to its peculiar nature, the Internet has been regulated quite differently. Since the beginning, obscure private organisations like W3C, IETF or Icann have taken decisions which are more important for shaping human relationships within the Information Society than governmental decisions. Furthermore, even the governmental actors are pleading clearly for self-regulation and co-regulation. What are the main arguments in favour of these new ways of regulation and to what extent are they acceptable? From this perspective they analyse different specific topics such as IPR, electronic signature, Privacy and harmful and illegal content.

Jacques Berleur, in *Governance Challenges: First Lessons from the WSIS – An ethical and Social Perspective*, draws a synthesis on the past landscape and the current stakes of the Internet regulation. From the time of the first UN Resolution until the post 2005 Summit position of the civil society, thousands of people have been preoccupied with an age, which seems still to be on the horizon, but in which we are already living - referred to variously as: the Information Age, the Information Society, the knowledge society, the digital society. They have begun to consider warnings concerning the social and ethical issues. In this article Jacques Berleur gives his reflections on the outcomes of the World Summit on the Information Society (WSIS), in Geneva (2003) and in Tunis (2005).

Governance Challenges: First Lessons from the WSIS – An Ethical and Social Perspective

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Abstract: The World Summit on the Information Society (WSIS), in its Geneva phase (2003) and in its Tunis phase (2005), has surely been an exciting experience, not in terms of the Summit itself, gathering respectively 11,047 participants (representing 1486 entities) and 19,401 (representing 1740 entities): most often the Summits remain events without big surprises – Tunis having perhaps escaped the rule. It has been really exciting in terms of preparation and participation: regional conferences before the Geneva Summit, PrepCom (Preparatory Committees) 1, 2 & 3 before each of the Summit's phases, organization of different bodies, PrepCom3 resuming just three days before the start of the Tunis Summit, etc. From the time of the first UN Resolution until the post 2005 Summit position of the civil society, thousands of people have been thinking about an age, which seems both still to come, and where we are already living: the Information Age, the Information Society, the knowledge society, the digital society... They have started to think about warnings concerning the social and ethical issues.

Keywords: WSIS, Governance, Ethics, Information Society

1. The UN Plenary Meetings Resolutions and the ITU 1998 Plenipotentiary Conference

From the first lines of the first UN December 2001 Resolution regarding the preparation of a WSIS¹, the link is made explicit between that Summit and the goals of the UN Millennium Declaration (Table 1), among which are the eradication of

¹ United Nations, Resolution adopted by the General Assembly, 56/183: World Summit on the Information Society, 90th Plenary Meeting, 21 December 2001.

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Fig. 2: ICANN's Official Structure

To better understand the agonies of Mr. Utsumi, it is perhaps interesting to point out the difficulty of identifying "Who is doing what?", and measure the weight of the current partners. Fig. 2 is the official structure of ICANN, which can be found on its website (<http://www.icann.org/general/icann-org-chart.htm>).

Fig. 3 is the result of an in depth analysis of the different actors.⁵⁰ Unfortunately, there are people that prefer to hide the complexity, which gives an *apparent illusion* of transparency!

La régulation d'Internet : une nébuleuse d'acteurs

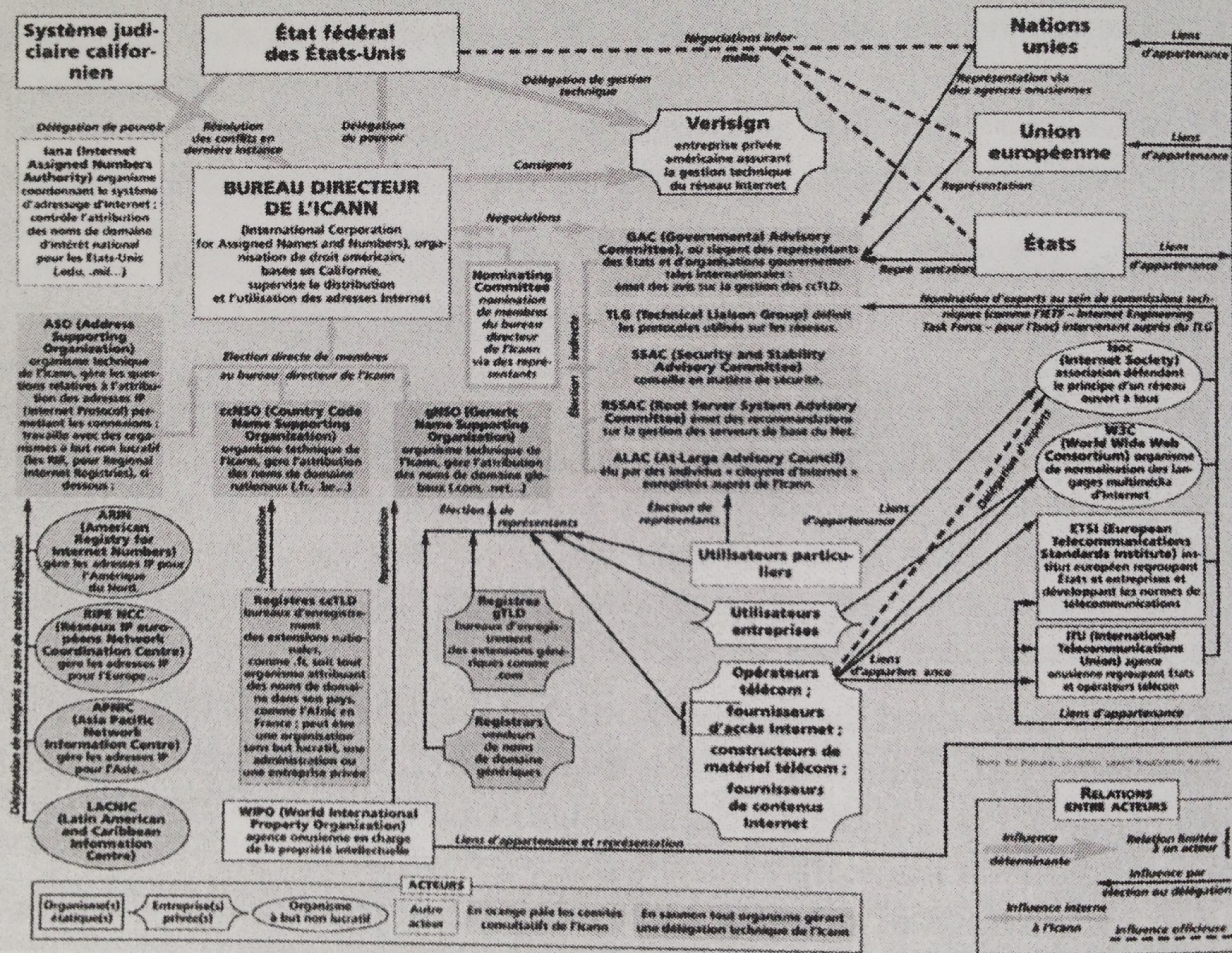


Fig 3: The Internet Governance: An Actors' Nebula

annex, as well as possible moderators/facilitators among the UN organisations for each of them (Table 3). UNESCO recently hold "WSIS Consultation Meetings" (October 16-19; 22, 2006) in a multi-stakeholders approach.

Action Line	UN organizations
C1. The role of public governance authorities and all stakeholders in the promotion of ICTs for development	ECOSOC/UN Regional Commissions/ITU/[<u>UN DESA</u>]
C2. Information and communication infrastructure	ITU/[<u>APC</u>]
C3. Access to information and knowledge	ITU/UNESCO/[<u>FAO/UNIDO</u>]
C4. Capacity building	UNDP/UNESCO/ITU/UNCTAD/[<u>UN DESA/FAO/UNIDO</u>]
C5. Building confidence & security in the use of ICTs	ITU/

51 Internet Governance Project, <http://www.internetgovernance.org>

52 Computer Professionals for Social Responsibility (CPSR), The Cyber-Federalist, A series
ICANN and Internet governance

C6. Enabling environment	ITU/UNDP/UN Regional Commissions/ UNCTAD/[UN DESA/UNIDO/APC]
C7. ICT Applications E-government E-employment E-business E-environment E-learning E-agriculture E-health E-science	[UN DESA]/UNDP/ITU WTO/UNCTAD/ITU/UPU UNESCO/ITU/UNIDO WHO/ITU, ILO/ITU WHO/WMO/UNEP/UN- Habitat/ITU/ICAO, FAO/ITU UNESCO/ITU/UNCTAD/[WHO]
C8. Cultural diversity and identity, linguistic diversity and local content	UNESCO
C9. Media	UNESCO
C10. Ethical dimensions of the Information Society	UNESCO/ECOSOC/[WHO/ <i>ECPAT Int'l</i>]
C11. International and regional cooperation	UN Regional Commissions/UNDP/ ITU/UNESCO/ECOSOC/[UN DESA]

Table 3: Action Lines (Tunis Agenda)

List of eEurope Benchmarking Indicators (2000)

Cheaper, faster Internet

- Percentage of population who regularly use the Internet
- Percentage of households with Internet access at home
- Internet access costs

Faster Internet for researchers and students

- Speed of interconnections and services available between and within national research and education networks (NRENs) within EU and world-wide

Secure networks and smartcards

- Number of secure servers per million inhabitants
- Percentage of Internet-using public that have experienced problems

European Youth into the digital age

- Number of computers per 100 pupils at primary / secondary / tertiary levels
- Number of computers connected to the Internet per 100 pupils at primary / secondary / tertiary levels
- Number of computers with high speed connections per 100 pupils at primary / secondary / tertiary levels
- Percentage of teachers using the Internet for non-computing teaching on a regular basis

Working in the knowledge-based economy

- Percentage of workforce with (at least) basic IT training
- Number of places and graduates in ICT related third level education
- Percentage of workforce using telework

Participation for all in the knowledge-based economy

- Number of Public Internet Points (PIAP) per 1000 inhabitants
- Percentage of central government websites that conform to the WAI (Web accessibility initiative) accessibility guidelines at A level

Accelerating eCommerce

- Percentage of companies that buy and sell over the Internet

Government on-line

- Percentage of basic public services available on-line
- Public use of government on-line basic public services for information: for submission of forms
- Percentage of public procurement which can be carried out on-line

Health on-line

- Percentage of health professionals with Internet access
- Use of different categories of web content by health professionals

Digital Content for global networks

- Percentage of EU websites in the national top 50 visited

Intelligent transport systems

- Percentage of the motorway network (vs. total length of network) equipped with congestion information and management systems

Table 5: List of eEurope Benchmarking Indicators (2000)

The trend was clear: the indicators were mainly concerned with the diffusion of the use of the Internet.