

ICTs for the Good Society

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Gunilla Bradley's lifework has been intrinsically motivated by safeguarding human well-being and the search for societal conditions that enable individual self-fulfillment, given the rapid development and deployment of converging computer, tele- and media technologies. Her scientific perspective is normative. Her vision is "the good ICT society" (2006, 197), "the good society for all (GSA)" (2006, 229). In that she is a pioneer and has been serving as lightfire for the emerging field of ICTs and society (a term by which I intend to comprise all scientific endeavours to design and assess ICTs in their societal context, whether they originate in Science and Technology Studies, New Media Studies, Computer Science or else).

It's an opportune moment to discuss the "good society". The current financial crisis that brought about the current economic crisis does question the current neoliberal system and its belief in the free market. In doing so, it makes the quest for a "good society" topical. And indeed, the attention that is given to the issue of a "good society" has recently been rising. Suffice to mention that, in the political field, ten years after Tony Blair and Gerhard Schröder produced their declaration of the European "third way" in June 1999, British and German Social Democrats invite to a debate on "Building the Good Society" in Europe (Cruddas and Nahles 2009), or that, in the academic field, there is a trend to base good life research issues being investigated in connection with technologies more and more upon considerations of what is the good society – in that vein, e.g., the director of the European division of the International Association of Computing and Philosophy, Philip Brey, had his talk at the Seventh European Conference on Computing and Philosophy 2009 on "The Proper Role of Information Technology in a Good Society".

My own considerations regarding the good society gained tremendous momentum when I became acquainted with a remarkable publication on behalf of the European Union. In April 1997, an EC High-Level Expert Group on Social and Societal Aspects of Information Society, chaired by Luc Soete, and under the participation of well-known scholars like Manuel Castells who ranks today under the most cited authors on information society matters, finalised a report under the title "Building the European information society for us all".

The basic tenet they departed from is the insight that "the information society signals more than a major change in the technological paradigm that underpins our society." The policy challenges ICTs raise "transcend the simplistic notions of rapid adjustment to an externally, technologically determined future in which people have little or no say" and "the sooner these are addressed the better" (63).

The notions "wisdom" and "wise society" were introduced in this context and appeared for the first time and, unfortunately, so far, for the last time in an official document of the European Commission (16): "One of the main effects of the new ICTs has been to speed up and cut the cost of storing and transmitting information a billion-fold, thereby "energising", in the words of the Bangemann report, "every economic sector" ("Europe and the Global Information Society", Brussels, 1994). However, these new technologies have had no such effect on the generation or acquisition of knowledge, still less on wisdom [Which we identify as "distilled" knowledge derived from experience of life, as well as from the natural and social sciences and from ethics and philosophy.] . One would hope, of course, that society

would be shifting more and more towards a "wise society", where scientifically supported data, information and knowledge would increasingly be used to make informed decisions to improve the quality of all aspects of life. Such wisdom would help to form a society that is environmentally sustainable, that takes the well-being of all its members into consideration and that values the social and cultural aspects of life as much as the material and economic. Our hope is that the emerging information society will develop in such a way as to advance this vision of wisdom.“

The adoption of the competitive Lisbon strategy rendered the vision of this report obsolete. The positive aspect one might be inclined to ascribe to this report is that it anticipated or, at least, accompanied the shift in European Union policy thinking from technological issues exclusively to the inclusion of economic issues testified by the subsequently accorded framework programmes for European research and development. New buzzwords – the “knowledge-based economy” and the “knowledge society” – began to partly complement and partly replace the precedent talk of the “information society”. However, the turn, if any, seems to have come to a halt half way. Deep changes that affect the quality of life, environmental sustainability, individual well-being, social and cultural needs as demanded by the report are still waiting for implementation. Neoliberal worshipping seems to have been sacrificing wisdom needed more than ever.

In 2004 I cast the normative vision of the “Global Sustainable Information Society” albeit, for a start, under a similar term when giving an invited lecture with the title “The Great Bifurcation: A Sustainable Global Information Society or Extinction” at the University College Cork, Ireland. Given that contemporary society undergoes a critical phase of evolution – marked by global challenges – which might end up in devolution, I have been conceiving of this phase in system theoretical terms: there is a bifurcation between a breakthrough towards a stable path of societal development that is based upon a novel principle of organisation of society, on the one hand, and a breakdown of the system at all, on the other. This is what I call the Great Bifurcation.

The breakthrough branch is tantamount to what, since my years at the Paris-Lodron University of Salzburg, I am used to calling the development of a “Global Sustainable Information Society” (GSIS) (see Hofkirchner et al. 2007). The purpose of this notion is to guide an integrative assessment and design of ICTs and their social settings which is a step in my activities intended to transcend social sciences and informatics. But this concept is of a more general importance. I argue that it is shaping ICTs that will be of decisive importance to societies that, in turn, are shaped by ICTs. For ICTs provide the means for enhancing the collective intelligence of the information society on different scales – the capability to reach goals by synergetic effects. The continuation of societal evolution becomes less and less probable without a quantum leap in collective intelligence achievable by means of ICTs that are designed for just that purpose. In that perspective, the Internet of today and its follow-up provide the material underpinning for a global consciousness that intervenes in the Great Bifurcation.

To be more to the point, by a GSIS I understand a society that is capable of making use of knowledge for fighting the dangers of breakdown due to anthropogenic causes on a global scale.

That is, I suggest the most universal value to be met by a good society be sustainability that denotes a society’s ability to perpetuate its own development.

I, furthermore, suggest that sustainability be broken down into a social part, called social compatibility, which is inclusiveness and fairness – to be broken down, in turn, into equality in cultural terms, political freedom and solidarity as to economy – , an ecological part, called environmental compatibility, and a technological part, called technological compatibility, by which I mean a balanced relationship of new with old technologies – to be broken down, again, into usefulness, usability, efficiency, reliability, security, safety and other values.

The main argument is that not only a society that exploits nature (as was found with reduced notions of sustainability) but also a society that does not meet the criterion of social compatibility because of the exclusion of have nots (who are excluded from the usage of commons) or a society that does not abide by technology assessment would in the long run break down and not qualify for being sustainable.

To be more detailed, in the sociosphere social actions are carried out. Tangible and intangible goods are produced and consumed. Every social being is called to co-design the collective in which the supply of the goods is provided. The more actors have access to the supply, the more the sociosphere is well-balanced, fair, just. Thus, justice is the value we can identify at the level of the sociosphere.

In this sphere the actors as social beings construe social relations concerning rules (culture), regularities (polity) and resources (economy) (Hofkirchner and Fuchs 2003).

Culture is about rules in society, including the regularities of political life. It is the field of discourse in which the actors can express themselves as long as they happen to gain influence by sharing the power to define values, ethics, morals (Artigiani 1991). The power of definition legitimises actors to act in a specific way. The ideal of equality would be fulfilled, if all cultural actors shared the same power of definition.

Politics is about power, namely, power of decision. The disposal of means of power means the ability to influence decision-making processes about circumstances of life in general including economic affairs. It represents regularities of how actors pursue interests. By resorting to power, actors are authorised to determine themselves. The more political actors have a determining influence on decisions, the more they are deemed free. Thus freedom is an inherent value of the political sphere.

Economy is about self-preservation of the actors through access to resources. Economy is that sphere of society where the actors carry out work in order to meet their demands. The social relationships that emerge here and channel the self-preservation of the actors are property relations – property being the disposition of resources. According to the power of disposition resources are allocated to the actors, that is, goods are distributed to them. The regulative idea for the allocation is solidarity.

“Ecosphere” is the label for that sphere of society that comprises the flows of matter and energy in support of the physical life of the actors. Contrary to all other forms of life on our planet, humans are able to consciously design their metabolism and to produce their *umwelt* whenever nature itself is not capable of reproducing itself for the sake of humans. Ecological sustainability denotes such a delicate balance between the human nature and the humanised nature. It can only be reached when the value of respect for nature scores high.

Technology is to augment the actors that take the role of productive forces in that they produce something when they aim at something. The technosphere is the sphere in which the actors of society carry out their instrumental activities. Instrumental activities are the use of technologies as well as the creation of new technologies. The overall aim to which the technological augmentation of productive forces is to contribute is to secure a peaceful development of civilisation.

Thus altogether you find here the same values that have been affirmed in the ecumenical process at the 1983 Vancouver assembly of the World Council Of Churches, albeit in a slightly different wording: “Justice, Peace and the Integrity of Creation” (see Niles 2003).

Exclusion from activities in one of the spheres means that the respective value intrinsic to the sphere in question is not fully realised. Exclusion from activities in the sociosphere produces alienation from fellow humans, that is, the failure of not building equality leads to lacking in influence. The missing implementation of freedom in the political sphere generates powerlessness, and non-compliance with solidarity in the economic sphere is tantamount with expropriation. Exclusion from activities in the ecosphere results in alienation from nature and exclusion from activities in the technosphere yields alienation from technology.

Exclusiveness is a characteristic of societal relations of domination. Exclusion identifies societies in which some actors dominate other actors. The realisation of domination finds its predisposition in possible incongruencies in the interplay of individual and society. As it is in the nature of a GSIS to be inclusive, the interrelation between the individual and the society is to acknowledge their mutual enrichment. Exclusiveness denies a lasting future for society.

ICTs and society as a transdisciplinary research field orients toward the fulfilment of values that are antagonists of the rule of domination. ICTs inhere the potential for that fulfilment. But they can also be used to prolong exclusions and hinder the advent of a GSIS. The inclusion of stakeholders in the genesis of technology makes the design process a participatory one and ensures a discourse that will marginalise exclusions.

Thus the vision of a GSIS as the good society is consequential for the study of ICTs and society. The object of study can be seen as any condition that is crucial for the shaping of ICTs for a GSIS. These conditions cover facilitators of, as well as impediments to, the shaping of technologies for a sustainable development.

If we distinguish between sociosphere, ecosphere and technosphere, there are interrelationships inbetween them and relationships within them that are fostering or are detrimental to societal development at any granularity – from the individual to the world society. The object of study consists in a variety of antagonisms. Since informatisation is rather a catalyst of fundamental societal developments which are given a new appearance than a creator of possibilities *ab novo*, the antagonistic aggravation of tendencies in societal development on the threshold of the global information age is the continuation of lasting antagonisms. Regarding all societal spheres together, the beginning of the information age can be characterised by an antagonism between the information rich and the information poor in which the antagonism between inclusion and exclusion is continued in a different form.

In the cultural sphere the human process of self-expression of actors turned historically, under the premise of domination, into an antagonism between equality and lacking in influence due to false consciousness. This antagonism turns again, in the course of informatisation, into an

antagonism between (scientific) rationality and (mass) mediated manipulation. The information revolution affects the mutual dependence of science, on the one hand, and values, ethics, morals, on the other, by giving more emphasis to the role scientific thoughts play within society. Science is committed to truth. Will the penetration of everyday life with science help suppress rules of social interaction that are not in compliance with findings that are claimed to be true and, in turn, will it help place an obligation on science to undertake inquiries for the sake of humane purposes only and will it thereby help create a true noosphere as Teilhard de Chardin (1975) and V.I. Vernadsky were envisioning? Or will it contribute by disinfotainment to distorting consciousness and distorting conscience, instead?

In the political sphere self-determination has become antagonistic when there has been domination. The antagonists are freedom and powerlessness which appear as e-democracy and Big Brother to the inside and to the outside when entering the information age. The introduction of ICTs alters the nature of the polity: it becomes the agora of “noopolitik” where governmental and non-governmental actors meet, while bureaucracy turns into “cyberocracy” (Arquilla and Ronfeldt 1999). What is at stake here is: Will the informatised polity empower the political actors? Or will it, instead, extend the control over them, be they interior or foreign (Information Warfare)?

In the economic sphere, there is self-preservation having been exposed to the clash of solidarity with expropriation in dominantly ordered societies and to the clash between the great hypertext which comprises all knowledge of humanity – “cosmopedia” (as Pierre Lévy coined it 1994, see 1997) – and information monopolies under the influence of ICTs. The information age is characterised by knowledge becoming an essential resource itself, becoming a new factor in the economic production process of society (Toffler 1980). “Knowledge mining”, however, is confronted with a certain attribute of knowledge which has consequences for the proprietary handling of it. In sharp contrast to other goods, knowledge is a good that, in principle, is not used up after being used, it does not vanish. For that reason, knowledge turns into a seemingly infinite resource while economy is said to deal with scarcity. Thus the basic question of the informatisation of the sphere of economy runs: Will knowledge be made accessible for each economic actor who is in need of it? Or will knowledge be kept in the bounds of private ownership and treated as commodity, instead?

Summarising, as to the sociosphere, there is an underlying antagonism between the human beings and the “Net” (as pointed out by Castells 1996-1998). This antagonism of the information age goes back to the antagonism between justice and alienation from fellow human beings which is the form in which the production of sense appears in the epoch of domination. By the increasing number of ICT applications dislocated throughout the sociosphere the network society arises (Castells 1996). Networking means the increasing interdependence of the actors and the increasing dependence of the actors on access to the means of managing this interdependence which are provided by ICTs. Will networking facilitate the access to the supply and increase justice and, thus, raise social integrity? Or will it contribute to social disparities and increase potential conflicts and raise the digital divide, instead?

As to the ecosphere, the human process of survival has been unfolding under domination into the contradictory tendencies of respect for and alienation from nature that again metamorphose, given the rise of the information society, into the contradiction between human beings and “Gaia” (Lovelock, 1987). Industrialisation multiplied material and energetic fluxes to an extent never seen before on earth. The flows threatened to get out of control. James R. Beniger (1986) calls the information revolution in this respect “control

revolution” by which control over the flows can be regained. The question arises: Will the control revolution be used for restoring the balance between human living beings and their *umwelt* and raise ecological integrity? Or will it further the degradation of environment by means of computer usage, instead?

As to the technosphere, domination has been realising possible incongruities of human instrumental activities and making peace and security fight alienation from technology. ICTs intensify this conflict in the form of human beings in opposition to the “Megamachine” (Mumford 1964). The spread of ICTs brings about a change in the very sphere of using and creating technology. Technology itself changes. By coupling with the computer which mechanises certain abilities of the human brain the machine of the industrial age which only mechanised abilities of the human body turns into an automaton. This holds for the whole realm of the infrastructure of society. The ambivalence of informatised technology comes to light: Will automation contribute to augment productive forces and further security and peace and by that raise civilisational integrity? Or will it serve destructive purposes and raise the vulnerability of the information society, instead?

This approach is normative but doing justice to the factual at the same time. For it includes not only an account of the potential that is given with the actual but also an evaluation of the potential which sorts out the desired. Thus ICTs and Society in the perspective of the GSIS vision embraces an ascendance from the potential given now to the actual to be established in the future as well as an ascendance from the less good now to the better then which altogether yields the Not-Yet in critical theorist Ernst Bloch’s sense (1967). It identifies facilitators and inhibitors of a good society.

The vision of the GSIS does not orient towards a utopian “nowhere” but searches for real possibilities, that is, possibilities that are anchored in reality. They are concrete and demonstrate that the search for a good society, that is, a better society is not in vain. Those realised possibilities can be envisioned as the foreshadowing of the better society.

It's worth noting that it is only a vision of the good society like the GSIS that gives reason to technological developments that are senseless in themselves unless coupled to humane values which makes them a means to an end. Without such an end they would be meaningless.

Take the following three developments in which ICTs, computers and Internet might be the driving force behind a convergence with other technologies (NBIC):

Pervasive or ubiquitous computing or ambient intelligence: technologists promise to make our human habitat smart, that is, endowed with chips linked to a net to become, in a tailored way, responsive to individual needs;

in analogy to this Internet of Things an Internet of living beings, of organisms, that are inhabitants of our *umwelt* as kind of an artificial web of life;

and the Internet on the level of the networked individuals of a Facebook society.

All of these developments are devoid of sense like those resulting in gadgets we know from our experiences as participants in the network society as long as there is no safeguard that they serve a humane purpose. Applying a GSIS perspective can set the stage for the development of meaningful technologies in an evolutionary context (see Fig. 1).

Figure 1: ICTs on the levels of things, of living beings, and of individuals in the perspective of a GSIS

The x-axis describes the dimension of virtuality and the y-axis the dimension of sociocomplexity. Virtuality means space of possibilities, sociocomplexity the complexity that arises when individual systems form a suprasystem. In the course of evolution, the space of possibilities might rise as well as the level of complexity of the systems. Physico-chemical entities, once exclusively defining the space on Planet Earth as Geosphere, turn, with the rise of biota, into matter that is cycled and recycled by biota and become part of a Biosphere, then turn, with the rise of human societies and the transition from Biosphere to an Anthro- or Sociosphere, into inert artifacts as which they form the so-called techno- or infrastructure of human societies, and turn finally, with becoming “intelligent”, “smart”, by means of ubiquitous computing into what Floridi (2007) calls “ITentities”. Biota turn, with the rise of human societies into the living *umwelt*, and turn, with becoming connected to the informatised infosphere, into what Floridi calls “inforgs”. Human societies turn, with becoming connected to the informatised infosphere, into communities networked by ICTs.

Floridi coined also the term of “re-ontologisation” in that context. By that he means the reworking, reengineering of the infosphere – which according to him is the space of information – such that its ontological nature is transformed. The question is whether or not the technological trends described above and to be found at the respective levels are tantamount to the re-ontologisation of human societies. I contend the position that it is only under the conditions of a GSIS that the actualisation of virtuality through ICTs can be said to be tantamount to a qualitative leap onto a new level that re-ontologises the whole anthropo-/sociosphere and transforms it into a “noosphere” envisaged by Teilhard de Chardin and Vladimir I. Vernadsky (Hofkirchner 1997). Without the shaping of ICTs in accord with the requirements of a GSIS the technological future will be thumb and dull and, eventually, lead to extermination.

A vision of the good society needs also indicators which allow the measurement of the advancement of society towards its betterment. The GSIS vision longs for the development of combined indicators of informationality (not only the spread of ICTs but also the generation of wisdom), sustainability (not only in ecological terms but also in social terms), and globality (not only regarding economy but also regarding world internal policy as well as the birth of a consciousness comprising all humanity).

So far there have been several attempts on preparing indicators for sustainable development. One attempt resulted in two sets approved by the Commission on Sustainable Development (CSD) in 1995, published in 1996, and after a revision process, again in 2001. 22 countries participated thereafter in pilot-testing these indicators. The latest revision in 2007 identified 50 indicators.

In 1996, at the invitation of the OECD, five working groups worked together to develop a follow-up of the above mentioned sets of indicators at a global level. Originally, the outcome of the working groups was termed “International Development Goals”. In 2000 these goals became the “Millennium Development Goals (MDGs)”. They can be regarded as intermediate stage to comprehensive sustainable development, as Crowley (2009) points out: “Despite their limitations however, the MDGs constitute the only at present globally focused endeavours by

the world community of governments, international organisations and civil society to foster and enhance sustainable development” (77).

They comprise 8 goals (with 18 targets subsumed) addressing the social issues of extreme poverty and hunger; universal primary education; gender equality and the empowerment of women; the health issues of child mortality; maternal health; HIV/AIDS, malaria, and other diseases; the issue of environmental sustainability; and the issue of a global partnership for development.

To conclude, Gunilla Bradley’s highlighting of the individual in the network age is not opposed to but, actually, necessitates, and is complementary to, the vision of the good society. The vision I consider necessary is that of a society that is characterised by its informationality, its sustainability and its globality – characteristics that support each other: GSIS. It’s not a blueprint of a good society but rather a framework of conditions that have to be met if the development of societies shall enter the sustainable path. Within this GSIS perspective ICTs can and shall be considered as component of a technosocial system that comprises humans and is, in turn, a subsystem of society; and shaping society shaping, in turn, ICTs; as providing a potential for true community-building shining forth as glimpses of a better future and society as providing impeding conditions for the actualisation of this potential which are, in principle, removable.

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