

The Productive Information Society: A Basis for Sustainability

The 21C Problem of the Global Society

The central problem of the 21st century lies in the growing consumption of fossil fuel, of energy, of raw material for industrial products, and of agricultural areas for towns and industries, in the devastation of immense areas, in the greenhouse effect resulting from the emission of CO₂ and other gases, in the elimination of traditional social relations, and in the mechanical and informational rationalization of labor. Mastering this 21C problem men will alter considerably technical production and social relations which are founded in the way how men determine what is needed and how they acquire the needed things.

**Computer supported collaborative work
helps to solve the 21C problem.**

But how?

The Intertwining of Information and Labor

Labor is reflected socially by the work steps that fit together, technically by the parts forming an object and informationally by the technically supported descriptions of things and the accompanying communication. These three sides of labor are closely interrelated.

Negotiating and processing a thing or a system people use their knowledge, they also use written, drawn or electronically stored information. They talk about intended and produced changes which again is remembered in mind or written and drawn on paper or stored electronically. The social actors reflect their world in information through collective labor in order to react collectively on the world of their objects and on nature.

**Information is reflected in labour and products and
labor is reflected in products and information.**

The Web as the Central Tool for Free Organized Labor

With web support people of different skills and from different regions become able to collaborate closer on the basis of technically networked information. Breaks and gaps between worksteps may be overcome thus facilitating cooperation. People will overcome the traditional division of labor, especially the division into white and blue collar work and the Taylorism. They don't need to act under predefined orders.

Though ever more complex the technical world is reflected in the web at its best. The **universal access** to appropriate data and methods as well to data and documentation of various systems makes it possible to take care of resources and to elaborate innovative things efficiently. Thus the web mediates in a new way the acquisition of existing or emerging technologies and the generation of new ones giving a basis for a sustainable evolution around the networked world. The web augments the means in communicating data and behavior of the underlying objects. It becomes the externalized knowledge of mankind retrievable by and communicable to everybody.

The web gives the technical basis for a coming productive information society.

Alienation of Work Vanishes in the Productive Information Society

With web support and in relation to accessible machinery, resources and needs individuals determine collaboratively the concrete labor each of them will do. In this negotiation process the **universality of each individual** will consist in the ability and in the **freedom** to retrieve suitable information from really every point of the global society and to organize collaboratively his own productive labor and to enrich the web with information. People define their **concrete equivalent** product, service and contribution such that after production there is no need to exchange the product on the basis of its value and to determine this value **ex post**. Aristotle's principle: „In order to maintain society nature decided that there are leaders and retinue. He who is able to foresee wisely, whom made nature to be leader and ruler, he who is able to execute commands with his hands' work, whom decided nature to obey and to be servant“ is changed to „The laws of

his own social action, hitherto standing face to face with man as laws of nature foreign to, and dominating him, will then be used with full understanding, and so mastered by him. Man's own social organisation, hitherto confronting him as a necessity imposed by nature and history, now becomes the result of his own free action." (Frederick Engels, Anti-Dühring)

With web support men organize a global „builder's yard“ where the psychological, economical, and legal alienation of work will vanish.

Issues

On acting as sketched out the 21C problem will be treated successfully. But if we want to do so we find great lacks in computer science, in social relations, in economy and in legacy.

Issues in Computer Applications

In the same period in which computer power is doubling industrial productivity grows far less than 10%. Today's instruments are not adequate to operate efficiently in the growing jungle of information, to handle the permanent collisions between plan and reality, to marry and to divorce people, things and worlds causing conflict and confusion. These issues meet with usability, with ergonomic, psychological and physiological requirements and construction principles of computer systems.

Social Issues

Formally, the social actors in the information society are not restricted to an elite. But practically, productive labor has to be adopted in the ideas of the information society. Workmen and, above all, blue collar workers that behave on their own have to be admitted in the models, not only being an object of computer supported planning. Education, training and efficient computer tools that are obviously suited for an emancipative usage on the job have to encourage blue collar workers to engage in this development. Schools, universities **and** practical work have to be connected through the web. We need concepts for teaching the productive information society during the education of young people in schools and in enterprises, the training of craftsmen and workmen, and the retraining of unemployed persons.

Economical Issues

Solving the 21C problem the use value of products has to be considered globally, in long terms and in relation to nature **before** an object is produced. The web enables this doing, but competitors have to retain information in order to be winner on the market. They have to put the exchange value in the foreground instead of a fully determined use value. Competitors appropriate the product of their workers and sell it being the only way to realize and to evaluate the invested capital. But this proceeding excludes the free discussion on the use value and on the direction of the production which, supported by the web, consumers and producers could organize by themselves. We need public funding to organize steps into the productive information society.

Legal Issues

If people want to act freely in web and production oriented structures they observe a lot of formal bounds. Usual contracts of employment give them no equal rights in accessing the information and the productive inventory in society. We need a political and legal framework such that people don't lose the equality of their rights during their life, a framework that supports and legalizes the described free use of information, that adopts and enhances the outlined possibilities of the web, and that stabilizes social security in the productive information society.

Conclusion

**The solution of the 21C problem strongly intertwines with a free
extending and efficient use of the web by all men.
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