

The Future of Work - Trends, Options, Problems

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Abstract: Work - its availability, quality and conditions - is a major determinant of psychic and somatic health. Health in turn is a prominent social good that tends to be unequally distributed in the population in function of its accessibility and the conditions of its social production. Its evolution depends, among other things, on the evolution of work. This sketch starts with a short recall of some aspects of our socio-economic system's meso- and macro-history, distinguishes three models of macro-economic organization that coexist unequally in present-day industrialized countries, and finally zooms in on some aspects of work organization and worker qualification. Although it focuses on work and some of its economic conditions, its approach will be mainly sociological.

Economic expansionism and counter-tendencies

The actual world-wide economic system developed in Europe over several centuries, in fact since the end of the Middle Ages (Braudel 1973, Wallerstein 1974, 1980, 1989). It has come to place profit-seeking at the core of its functioning - profit-seeking being here defined in rather narrow monetary terms - and engenders an ever increasing exploitation of any resources that prove to be instrumental in that perspective. The notion of resources or productive factors has long been defined in too restricted a sense, meaning mainly natural resources, work and capital. Looking at what is really going on in economic development, we realize that nature and culture in these terms' broadest sense are part of the resources progressively put to use and exploited by the economy. Seen that way, the actual ecological problems prove to be a direct consequence of the working of a narrow, but expansive principle of economic rationality.

The Bible can be cited to justify a dominating and exploiting relationship between man and nature just as Marxist and other conceptions - it is part of the basic assumptions of our occidental culture.

To consider *nature* as an economic resource has little to astonish, even if we have been accustomed for quite a long time to look at it - excuse the image - as a baby looks to mother: you take everything you get, without even thinking about where it comes from or about giving back something in exchange.

To consider *culture* as a resource to be exploited for economic goals is a more recent conception, not only in recent managerial doctrines about the culture of the firm, but in the more general sense of exploiting workers' skills and motivation - not only their "working force". Lutz (1989), a German sociologist, has shown that from the outset of industrialization, our economy has been living on a motivational resource that it does little, if anything, to reproduce. This resource is not natural as most others, but cultural. It is the *work ethics* that developed in pre-industrial periods and was well attuned to pre-industrial modes of production. Since the very beginning of industrialization, the modern factories have been recruiting their labour force largely from the traditional sector, i.e. from the world of small farms, craft workshops, commerce and other traditional services. It is traditional in the sense that it corresponds to what we may call, according to some anthropologists, the domestic mode of production (Sahlins 1972, Medick 1977). Its guiding principle is not to produce and sell as much as possible with as little cost as possible, but to satisfy in an optimum way the basic needs of the household and its members (working harder in hard times, and less in good times). This traditional sector relies on a generalistic qualification of the economic actors, especially of the small independent ones, that is executed in combination with a degree of autonomy and responsibility much larger than what is usual for most workers' or employee's jobs in modern factories or administrations. Such capacities are not just handed down by tradition, hear-say and explicit teaching; their practical exercise is probably even more important for effective learning. We can say that during the process of industrialization (and in some countries until very recently), the modernizing economy eliminated the very traditional structures whose motivational outcomes it used extensively.

The submission of an increasing part of social life under the needs of the economy can be seen as part of this economy becoming increasingly disembedded (Polanyi 1944), i.e. released from the social constraints existing in traditional societies. (Wallerstein (1974) proposes to see in Charles the Great's failure to establish a European Empire the historical explanation of capitalism developing

in Europe but in no other great feudal system. According to this author, only in Europe a large scale economic tissue developed that was not co-extensive with an equally wide-ranging polity.)

So in a way our market economy tends to have the same relationship to nature and to culture (or motivation): it exploits them as if they were resources that need no special effort to be reproduced. In fact most propositions aimed at diminishing some of the present ecological destruction have in common the idea to at least begin to *internalize* into the economic system the heretofore neglected function of reproducing the resources on which it lives (e.g., introduce ecological and social accounting and corresponding charges).

Models of production

The economic development of Western societies during the 20th century has been closely related to a specific form of production. It is not sufficiently well identified by the general label of capitalism. Moreover, it is not only made up of Taylorism and its subsequent, more humanized versions, but of what some economic historians call *fordism*, i.e., the profitable combination of large-scale production with high-wage politics assuring mass consumption. We can call it a factual Keynesianism (steering the business cycle mainly by influencing the demand-side of the economic process through income policies and state purchases); it can be state-administered, private or mixed (Piore & Sabel 1984, Coombs 1989).

Taylorism or Scientific Management designs a technique of breaking down, on the basis of systematic observation and testing, complex production processes into small bits of action needing no specific qualification and allowing for large scale standardized mass production. It has been developed by the American engineer Frederick R. Taylor at the beginning of the 20th century and had quickly been given an additional impetus by its combination with the mechanized production chain.

There is a number of indicators pointing to the possibility that the Fordist model is presently attaining some internal limits to its further growth, and that it is producing negative side-effects that may contribute to its discredit. Let me first refer to the growing *difficulties to motivate workers sufficiently*, that happen at the very moment when the technologies applied make firms more dependent on

such motivation than before. High fluctuation rates despite considerable extrinsic incentives (wages, individualized time arrangements, various material and organizational advantages offered by the firm), absenteeism of persons absent and present, high rates of errors and reparations needed before the product leaves the factory often speak a clear language. Very similar symptoms exist in the service sector.

Another internal limit to the continuation of fordism is the increasing *instability due to large scale integration* of economic processes, of which the multinationalization of large corporations is only the most visible form. To the extent that there is close interdependence of subunits within a highly integrated system (be it a firm, an economic sector, a nation or even the economy on a world scale), any local turbulence will have excellent chances to spread to the other regions by systemic transfer (Perrow 1984). Booms as well as crises are thus blown up to the largest level, as the 1987 stock exchange crash has demonstrated. (In this particularly rapid case of a self-reinforcing escalation the systemic effects have been essentially supported by automatic, computerized portfolio management.)

A third indication of internal limits may be seen in the increasing *resistance*, opposed mainly by business and by conservative politicians against keynesianism, the welfare state and state intervention in general.

There are several attempts at overcoming the limits to further fordist production: *work reorganization* in order to increase intrinsic motivation; *hierarchy reduction*; the reorganization of the relationships between subunits in order to *create decentralized instead of centralized integration*; and the insertion of buffer functions against the above-mentioned systemic effects of turbulence propagation. Nevertheless, debate on such experiments by far outweighs real experiences (for working examples on a regional scale see again Piore & Sabel 1984), so I think that we are only at the beginning of a period of practical exploration. For the time being, only few large corporations seem to be inclined to try such experiments. The sector of small and medium sized firms is even more reluctant.

Reproduction of Nature, reproduction of Culture, the internal limits to the fordist model and the attempts to overcome them will be among the main parameters shaping the questions of interest. We may be faced with the problems they create at a faster or slower pace and in a different order than some have predicted. The reasons for believing in the possibility of delay lie in the present attempts and opportunities to overcome or extend the limits to fordism. Especially and first, despite some phenomena of over-production, *market expansion*

will be still further developed, both internally and externally. *External expansion* refers to the development of new markets - we are just at the beginning of the opening up of Eastern Europe to the market economy, a bargain for putting to use the productive and investive overkill of the Western economic apparatus; the yet unconquered immensity of China looms behind, and also other developing parts of the Third World. *Internal expansion* refers to the integration of still other functions and services, up to now produced and exchanged in non-market relationships, into the monetarized commodity circuit. This alters the conditions under which people can have access to them and the social relationships into which they are traditionally embedded. I am thinking especially of all kinds of body and soul caring (think of all sorts of individual and group therapy, sensitivity training etc.), but include also leisure, the acquisition of knowledge and skills, and many kinds of counselling. We have probably not yet reached the point of maximal care-taking by professionals against money - for those who can afford it, of course. Habermas (1981) has called this process the colonization of everyday life.

Another strategy of expansion is *speeding up the consumption cycle*. As its economic importance and undesirable side effects (especially in ecological terms) are probably underestimated, it must at least be mentioned. This refers to the artificial shortening of the product life cycle by planned obsolescence of hardware, software and symbolic status. (The latter goes largely unobserved, but is of great importance. We can call this "fashion" in the largest sense of the term, with respect to consumer goods, but also in other market sectors. One of the more recent examples is the rapid succession of improved versions of computer software, creating the need for more hardware capacity, which facilitates the use of still better programs, which run better on the more recent computer model, for which even more potent software exists, etc.)

Beside expansion, a second strategy to maintain economic dynamics without questioning its basic model is *automation*, today mainly based on computers, robots and telecommunication. This strategy aims directly at replacing human work by machine work in order to diminish costs. There are still more strategies that may permit firms to diminish their costs: 3. *dualizing the labour force* into a stable and a precarious segment, the latter working under bad conditions in function of short-term economic fluctuations; 4. the *transfer* of labour intensive operations to low-wage countries, and 5. the *delegation* of high-cost and low-profit production or service functions to the clients. We can already observe a (little studied) rise of consumption work, e.g., with telebanking and pay-cards, that transfers the costly function of data entry onto the clients. In a similar vein, you may also think of the mushrooming sector of do-it-yourself.

Some analysts speak of the Black-and-Decker or Ikea syndrome to design the double aspect of an expanding and profitable market and a new category of private activity. We still think of ourselves as customers buying goods and services, but we are already on the way to become consumption workers.

This means that the actual phase of economic development has contradictory effects: on the one hand, market forces and their logic continue to subdue further territories and functional sectors that have so far remained external to them, but on the other hand they create a fringe of non-market activities (so-called grey markets or informal economic activities, often on the basis of moneyless barter and of course without taxes or social insurance payments) that are linked to their functioning, but escape legal regulation and institutional control. This may turn out to be a surprising, unintentional contribution to the realm of informal and alternative economic activity, a realm that is otherwise fuelled by ideological commitment (or by unlawful practices). Increasing commodification is thus accompanied to some extent by increasing de-institutionalization and demonetization. This tendency expresses above all a rationalizing strategy by profit-seeking firms, but also a growing popular desire to reappropriate functions of social life, actually taken care of by market processes, institutional regulations and their inherent constraints. This is a counter-tendency to the increasing colonization of everyday life as diagnosed by Habermas (1981).

Owing to this situation, we are heading toward a period of increasing diversity rather than of a unifying master-trend, diversity of all aspects of economic life, especially of the underlying *models of production*. Which models? We may say that today the fordist model is predominant, be it on the factual level or only as an aspiration: large-scale integrated mass production for wage-encouraged mass consumption. At the other extreme, we have a small, but interesting minority practicing "alternative production", giving as much or even more importance to workers' self-determination and to ecological compatibility than to productivity and wages. While the fordist model has been, at least in economic terms, extremely successful during this century, the alternative model has had enormous difficulties to get stabilized in the long run under acceptable conditions. It subsists on the margin of industrialized countries and enjoys little expansion if any. There is still another, third model, sometimes blending in with the second: the traditional model of the small firm, owned and directed by an independent craftsman, merchant or professional who is often integrated, economically and socially, into the local or regional networks. All three models will continue to exist, but there will be other ones tried out as well. Needless to say that problems of work organization heavily depend on these models. (Let us think of just one example: just-in-time production. How would its generali-

zation affect work organization and worker lives? It would most probably impose much more flexibility in work schedules, with ensuing problems for the synchronization of various social rhythms, e.g., of school life, associational and political life, consumption and leisure.) However, this diversity will be rather qualitative than quantitative, as there are presently no effective forces running against the on-going globalization of the dominant model of production.

Social structure

Even if the overall trend of industrial and post-industrial development is correlated to (and facilitated by) progressive reduction of social constraints on the economy, it still takes place in the framework of human societies; the men and women who work in it do also participate in the life of other social sectors. So let us briefly and very sketchily look at social change outside the economy, especially at *social stratification* in highly developed countries. Sociologists define stratification as the system of social inequalities within a society. Recent research and interpretations seem to converge on one overall tendency: in modern, especially highly industrialized or even post-industrialized societies, *the main social inequalities do not diminish, but they become more independent of each other*. In sociological jargon one would say that the crystallization of the stratification system diminishes, which means that social boundaries become blurred, that classes become less identifiable. In other words: according to the different criteria that constitute the stratification system, e.g., income, formal education, occupational position, people continue to be located at very different levels, but one and the same person may be differently positioned according to the criterion considered.

What are the likely consequences of de-crystallization? The main consequence is increasing individualization, mainly not on an ideological, but on a social-structural basis, i.e. it concerns the social order itself and not social representations in the first place (Beck 1986). As people are differently integrated in society and its substructures, they make social experiences that singularize them; they will find it increasingly difficult to recognize themselves in the experiences made by others; thinking in individual rather than collective terms will become increasingly plausible. Social structure becomes invisible; *society becomes less transparent and less real to its members*. Its global outline disappears behind the multiplicity of its constituent elements, and a crucial basis for solidarity gets decomposed.

Another consequence of structural individualization is probably the *value*

change that has set in since the beginning of the 70s. Several studies show a *shift from materialist to post-materialist values*, giving less priority to issues of material well-being and security and more to themes like self-realization, sociability, spirituality (Inglehart 1971, 1990).

Structural and cultural individualization have to be taken into account - not only in politics, but also in economic strategies that aim at overcoming the obstacles to further expansion of the fordist model. New technologies play a critical role in such strategies; we shall presently have a closer look at their social meaning.

A second major trend, likely to be reinforced by the first one, is the *growing gap between everyday life*, with its social ties, non-commercial exchanges, individual activities and reflexions, and the *institutions forming the macrostructure of society*. The search for autonomy, put forward by the protagonists of the students' and other new social movements in the last twenty years, becomes structurally based and transforms into a largely shared social aspiration. The large institutional structures (like the state, firms, the army, the church) do not simply disappear, but their capacity to organize large parts of people's everyday lives diminishes and their social legitimacy may be challenged. (By legitimacy we mean the social acceptance of a hierarchy, of an unequal distribution of a valued good such as income, of a powerful social actor by those who find themselves in a weak position.) We may even speculate that if this gap is to grow to a substantial degree, it might become a major social tension and lead to important institutional rearrangements. The changes under way in the East, but also to some extent the construction of a more integrated Europe are of that kind.

New technologies and work organization

The new technologies, especially the information technologies, are basically ambivalent (Coriat 1990). They may be introduced into existing structures according to an exclusively technocratic logic (T), or their introduction can be the occasion of reorganization (S+T).

In the first case, the *T-strategy*, they are likely to continue and reinforce the inherent negative tendencies of the taylorist or post-taylorist work organization. They will contribute, among others, to the exclusion of humane work (and often of human work altogether) from the workshop and the office and will do little to avoid the limits of the fordist model in the long run. The T-strategy of

technology introduction is bound to deepen the polarization between physical and mental work, and probably often also the one between the category of highly and intrinsically motivated stable workers on the one hand and the one of poorly, extrinsically motivated “marginal” workers on the other. All of these consequences are bound to negatively affect not only the quality of life at work, but also productivity.

In the second case, the *S+T-strategy*, the new technologies can support new modes of organization, more flexible, decentralized and less hierarchic, that focus on self-organization, qualification and responsibility, allow for more flexibility of the firm as a whole and maybe even for the construction of regional networks that can become alternatives to world-wide-integrated firms (Piore & Sabel 1984).

To realize this second possibility calls for the socio-technical systems approach (Herbst 1974; Ulich et al. 1989). This approach considers the technical and the social subsystem of a work organization as two parts to be integrated with each other. They cannot be optimized alone, but only together, one-sidedness in one or the other direction creating disturbances in the functioning of the whole.

The choice between the T-strategy and the S+T-strategy is fundamental for the quality of life at work. Which choice is finally made seems rarely predetermined by technical constraints. *It depends largely on how the main actors confront the issues of work and firm organization.* The choice is basically not of a technical, but of a political kind. Actually, an increasing number of firms is taking into account what is referred to rather prudishly as the human factor; I think that due to the problems inherent to the fordist model, this concern is bound to stay with us ever more seriously.

A master concept coming along with these technologies is *flexibility*. Temporal and spatial flexibility of work are as ambivalent as the more structural or organizational aspects I have already pointed to; it can be just another instrument of increasing productivity at the expense of workers, or it can be a management philosophy integrating their aspirations into the goals of the firm.

Flexible time may concern different aspects and organizational levels: the distribution of the global volume of work on all the persons seeking employment (decrease of individual work time proportional to increases in productivity and to mechanization of tasks), but also its variable distribution over the personal life cycle, the year, the week according to various formulae.

Favoured by telecommunications and the compacting of various work equip-

ments, *flexible place* might concern an increasing number of people, far beyond of those occupations that have traditionally been working on varying sites.

Flexible time is increasingly experimented, but some forms are much more popular than other ones. One important dividing line seems to be whether the formula responds only to the employer's interests or also to those of the employees. Flexible place is rarely practiced; many firms who do have the choice refrain from giving out pieces and information, e.g., to so-called satellite offices, ostensibly fearing a loss of control (Olson 1989).

Still another form of flexibility concerns the technical system used: *flexible production*. These systems - in production as in the services, e.g., travel organization) - tend to become increasingly multi-functional and geared toward just-in-time treatment of incoming orders, which means to combine the technical and economical advantages of mass production with the heightened value of à-la-carte products. Providing a high level of qualification of their collaborators, this possibility could be a bargain for small and medium-sized firms as it helps to bring down production costs while maintaining an individualized service to the customer (Ulich et al. 1989).

The first option - enhancing productivity by purely technological measures - can be successful in the short range, postponing its negative side-effects. In the middle and long range, the second option is likely to prove economically superior. The problem is that management action seems to be mainly and increasingly conceived in the short range only.

Qualification of the work-force

At the risk of repeating well-known things, it is in place here to take up some considerations about qualification demands of working men and women as a function of the new technologies, especially if their introduction is not accompanied by changes of the organization and the overall conception of work. This will allow us to see on a more practical level the differences between a purely technical and an integrated socio-technic strategy of work reorganization:

Work is becoming more abstract. Direct manipulation of physical objects is being replaced by manipulation of symbols and informations; the worker becomes a steering agent of complex machines. This results in a very different mobilization of human capacities than was the case by traditional forms of work. This concerns again production as well as a large segment of the services, where part

of direct relational work with clients is being rationalized, i.e. transferred to machines. For instance, face-to-face activities, traditionally linked to information exchange of all kind are replaced by *multiplier activities*, permitting a single employee, civil servant, counselling agent, etc., to respond to a higher number of recipients whom he or she no longer meets, but contacts by way of intervening technical media. In the same vein, information entry is increasingly no longer performed in direct interaction, but by the clients' technical manipulation (card-paying etc.). To the extent to which this change takes place, persons with a more traditional profile of capacities (manual or social skills) will find more difficulties to get interesting jobs and risk decreasing quality of life at work. This kind of problem is likely to fall especially on women as their relational skills may find fewer fields of professional utility. This tendency could be countered by the heightened attention some firms begin to pay to their interface with customers, seeking to come back from mass marketing to personalized contacts.

The systems, especially the software used by the new technologies change rapidly, their longevity is brought down to very short intervals. This accelerated rhythm of change entails the necessity of frequent adaptations of the know-how and skills involved in handling these systems. Mastering the work instrument is less and less a definitively acquired asset, reorientation becomes an important capacity in itself, both for the workers and for the management. Recurrent education, the necessary capacities and motivation become a compulsory prerequisite for staying on the job. Cognitive flexibility becomes a major plus. However, there may be some exaggeration as to the diminished value presently attributed to personal experience, part of which probably remains a precious cultural capital for those firms that succeed in putting it to use.

The new systems are of an increasingly flexible application. Their handling demands cognitive functioning on higher levels of abstraction than is the case of more traditional work skills. Professional excellence will concern more the mastery of instrumental information than the virtuosity of execution. The comments to my first point are applicable again.

The flexibility and multi-functionality of the technical systems is based on a transfer of technical knowledge from the workers to the machines, a trend particularly conspicuous in the case of expert systems. Eventually, due to such systems, professional functions or even entire professions may become obsolete, even those taken until recently to be un-rationalizable, especially those implying the mastering of large sets of factual information (take medical diagnosis or the profession of pharmacist). Among the consequences of the diffusion of such innovations

there could be considerable conflict involving vested interests, especially if traditionally privileged professions are concerned. More generally, this may become a major factor of dehumanizing the work place with all the ensuing problems for the firm and the larger social community. The alternative would be a fundamental reorientation toward more integrated, holistic forms of work organization

Computerized data processing allows to dissociate the functions of execution and control much more than previous technologies. On purely technical grounds, decentralized work (individual work stations that may be located at very distant places) can easily be combined with centralized control. Thus it is possible to increase the social control of individual workers while diminishing their capacity to organize and to develop collective action. After a prolonged period of relative stability, this may become one element of a basic challenge to the actual state of industrial relations. At the time being, its impact is attenuated by the resistances against the most pronounced forms of telework. Moreover, it is by no means evident that isolated workers work better than teams.

While diminishing the risks of physical harm by work accidents, the introduction of new technologies engenders further intensification of work, often also social isolation and uneven demands on human skills. Apart from (and parallel to) the problems related to shift work, there is a real risk that instead of eliminating the negative effects of work (such as specific morbidity and mortality), these technologies transfer disturbances from the purely somatic to the psychosomatic and psychosocial level. Such problems are more diffuse, less evident to identify, less easily attributable to their origin, and more difficult to treat.

This list is certainly incomplete, but let me stop here. It may seem unilateral as it features the negative consequences of introducing new technologies and especially of their introducing according to a one-sidedly technical conception. This is not the result of ideological partisanship, but of a rather sceptical look at the forces behind the actual processes of technological diffusion. Most of these technologies are capital-devouring and serve to save manpower costs, which means that management puts them to use primarily to rapidly achieve high productivity with low labour cost and quick redemption of the invested capital, and only secondarily (if at all) to reorganize and humanize work. This one-sided logic is likely to prevail as long as labour unions do not effectively interfere with it, and as long as its negative economic side-effects will not be clearly singled out by current accounting procedures.

Value change and work

We should look into still another element of change that has already been mentioned: the change of values, mainly among the younger generations (Inglehart 1971). This change is generally analyzed as a *shift from materialist to post-materialist values*, giving less priority to issues of material well-being and security and more to themes like self-realization, sociability and spirituality. Such a change seems really to take place, but it would certainly be wrong to think of it in terms of a general and progressive decline of the materialist values. It is a change of priorities.

Among the so-called materialist values we also find *work*. What is being questioned is not so much work as a social value but the formalist (bourgeois, protestant, materialist...) conception valuing work in itself, whatever its content. The value change implies not a general decrease of the interest in work, but a more demanding attitude that could be expressed by the phrase: either I get interesting work, then I'm prepared to identify with it, or I just get a well-paying job, then don't ask me for any personal commitment.

There are, however, good reasons to believe that such a value change will hardly spill over some very basic barriers inherent in the social order. These are set by the way exchange is institutionalized in our societies. The main institutional form of exchange is the market mechanism. It makes it impossible for most people to survive physically and socially without buying goods and services with money they must earn by working. It is not before this structural link will be weakened that such a value change can be expected to motivate behavioural change on a significant scale, unless the power balance on the labour market moves enough in favour of the employees to permit them to be qualitatively selective. The guaranteed basic income would be a mechanism that could break the structural link giving its central role to work in present societies (Schmid 1984, GRAEL 1986).

An intriguing thing about this value change is that it seems to be rather closely correlated with economic development: it has gone farthest in the richest countries and is weakest in the poor countries (Inglehart 1979). This suggests that the questioning of materialist values may be directly linked to a high level of their realization (or of their perceived realisability). In simpler terms: as long as a population does not enjoy a fair level of material well-being, its achievement remains an unquestioned priority. Only when you are sure you can get what you consider important, you start looking out for something else that you would like to get as well. The rise of post-materialist values being *tied to interna-*

tional inequality indicates that this case of value-substitution must be seen as a luxury by countries and populations who are struggling for material well-being on a substantially lower level. We should, in this respect, not only think of Third World countries, but also of those of the Second, i.e. the Eastern World. Most of them are under way to fully integrate themselves into the international system built around the social value of socio-economic development, in other terms around the very materialist values that start being challenged in those countries that are most privileged in respect to them. In this international perspective, one could ask whether the quality-of-life debate in the rich countries of the globe has not a subterranean dimension of neo-feudalism supporting it. That value change, if it becomes effective on a societal level, adds a new criterion to the bundle of international inequalities, concerning which it is still more difficult to move upward than with respect to the other ones.

In the rich countries, there may be another, structural force that undermines the centrality of work as a social value. I am thinking of the enormous effort at *substituting human labour by automated machine work*, especially in the form of computer integrated manufacturing (CIM). The dream of the unmanned factory appears to many as a promising strategy to get rid of rising wage costs, human errors, the unpredictable labour market and unruly labour unions. Practical examples are being tested. For some reasons, it can be doubted whether this concept will really prove to be economically rational. But however this question may be answered, such a perspective is a novel challenge to our valuing work as a basic human capacity and activity. Christian, liberal-economic and Marxist conceptions all share the conviction that work has an essential anthropological significance. Current studies on unemployment support this view.¹ If economic values can be produced without human work, the social value of work risks to be shattered fatally, as it no longer appears to be a necessary condition of life.

The technical possibility of human work becoming largely superfluous can be seen as a promise of hell or of paradise - whatever it be, it leads to rather basic questions:

- Is it still sensible to think that values, especially economical ones, can only be created by human work?
- Is it actually true that we are significant beings mainly by virtue of our economic activity?
- If ever we get at a point where large parts of the economy no longer need human labour - what will then guarantee the sheer existence of human beings?

- If a post-work society becomes thinkable, we should also start to figure out around what values and structures such a society might be organized.

Once we start examining these questions, some quite fundamental elements of our social order begin to require rethinking. But for the time being, it is only the small, privileged part of the world's Northwest that is concerned by such considerations. So we should briefly come back to a more global perspective.

A look at the international system

While many promising social experiments are being tried out on a local scale, especially in the countries of Northern Europe and North America, the economy has become global. Multinational corporations (MNCs) are now a major element of the international social structure. Between half and three quarters of all international exchanges are estimated to have by now become intra-corporation exchanges (Beaud 1987), allowing, among others, for hidden, large scale capital transfers difficult to control by national agencies. MNCs are powerful collective actors, organizing a large and increasing part of the available work places all over the world. Compared to polities, their action is subject to considerably fewer constraints: they are much less bound to a particular territory, can easily navigate among national contexts and their specific political and legal constraints, and are often weighty negotiators, especially when faced by governments of economically and politically weak regions or countries.

The rise of MNCs as powerful economic actors on a global level takes place in a period of stagnating intergovernmental structures. It thus appears to be still another step in the above-mentioned process of the economy's social disembedding (Polanyi 1944). While even middle and small firms start to go international, polities remain national. Even if the global stalemate between the superpowers has become fluid with the disintegration of the Soviet system, no functional equivalent of a government with regulated input and output structures and implementation power is taking shape on the international level (even if the intervening capacity of the UNO has increased somewhat). Polities and firms may have common features. There is at least one important difference that is of interest: polities, at least democratic ones, provide more regularly for political input and some form of democratic control of their functioning and priorities than firms. Even if the latter have to respond to the market, they are hardly ever faced with an organized opponent that would act as for instance political parties or interest groups do. This difference applies not only to the material or symbolic goods they sell, but also to the working conditions they

offer. Up to now, attempts at developing international labour unions that would become effective counterparts to the MNCs have had only limited success. Moreover, the implantation of MNC branches in Third World countries has several disruptive effects on national economies, social conditions and inequality: they create a ghettoized labour aristocracy, dependent subcontractors, contribute little or (in the long run) negatively to general development (Bornschiefer & Chase-Dunn 1985), have negative effects on the physical well-being of the larger population (Wimberley 1990) and reinforce the marginalization of the traditional economic sector and the population that is related to it - needless to remind that this sector is a much more important part of Third World than of European or North American societies, and that its often neglected contribution to national subsistence is crucial to their societies' development.

The social value of material well-being (to which health in its elementary and more elaborate forms belongs as well) is central to the international inequalities of development and also to the popular aspirations all over the world. We have seen that the value-change in favour of non-materialist values is by far most pronounced in the (economically) richest countries of the world. We may consider these international inequalities as a proper stratification system, with nations stratified into classes or rather into structurally defined hierarchical layers. Low-status populations of low-ranking countries can choose between (or combine) two alternative interpretations of their situation: international discrimination of their society as a whole, or internal (class) discrimination (Heintz 1982). Low-status populations of high-ranking countries may feel little solidarity with the former, since active solidarity implies some form of international redistribution and must appear to threaten their own well-being (which they rarely see as a privilege as their social reference is not with their structural peers in poorer societies, but with the privileged groups in their own societies).

Up to now, the international system, organized around the value of development under conditions of capitalist or market economies, functioned in parallel to a smaller, mostly self-contained international system of socialist economies, equally stratified on the level of nations, but officially built around values of solidarity and equality rather than of increasing well-being. However, the latter was not denied, on the contrary. Ever since Stalin the official doctrine of the Eastern world has engaged in an explicitly declared competition for well-being and national economic force with the capitalist West, thus implanting the very criterion for these regimes' increasing and eventually exploding illegitimacy. The Soviet international system had little interaction with the capitalist system. For good or bad reasons, the legitimacy of the Soviet systems' internal

structures has very quickly faded away, and most of its nation states are striving to integrate into the first system (where they will at best occupy intermediate ranks, comparable to Latin American or Southern European countries). On the structural level, the first-mentioned international system, characterized by few and weak overarching political structures and much leeway for MNCs and other forms of economic power, will thus become even more predominant. On the cultural level, the socialist project of an alternative social organization is now heavily discredited - again irrespective of this being so for good or for bad reasons.

It is not possible at this time to explore in detail hypotheses about the likely consequences of this process of *system homogenization on a global scale*. Nevertheless, our brief considerations suggest some arguments to fear that at least for some time there will be an increased acceptance of individualistic and self-blaming ways of responding to economic pressures in many parts of the world - with the ensuing bad prospects for health-furthering work reorganization.

What can science do?

We must recognize that health - work-related and other - is a socially defined, produced and unequally distributed good. As such it is interlocked with other forms of power and privilege, with their reproduction or transformation. We must also recognize that the access any individual has to this good does not only depend on his or her personal effort and talent, but also (or even to a larger extent) on the various social conditions under which he or she has to act.

We have looked into some of the complexities of the structural and cultural context, from the meso-social up to the global level of the present world system. It is obvious that such complex and multi-layered systems cannot be reduced to simple determinisms and exclusive two-variable relationships. They are made of multiple, interrelated, vicious and virtuous circles of interdependence. As a consequence, *no either/or kind of strategy can be likely to produce desired change, but only multi-level interventions based on global and complex thinking*, even if action has to be local.

As scientists, we have easier access to factual and interpretive knowledge and to the possibilities of their diffusion than to the power that is needed to directly change social structures. Information can be a source of power and thus become a social structure. But it is more prone to directly affect legitimacy, and power only indirectly; the countries of Eastern Europe have given a striking example

of the regime-shaking effectiveness a fast loss of legitimacy can have. We may hypothesize that scientific information can effect desired (or prevent undesired) change in social structures if it

- reinforces the legitimacy of actors who have a real interest to go in the desired direction,
- reduces the legitimacy of actors who pursue adverse interests (i.e. their legitimacy among their constituency, clients or other relevant partners),
- can open up or structure new situations that are not yet institutionalized and where the relevant actors have not yet clearly defined their central issues and interests.

A general strategical principle could then be to pursue activity that

- aims at changes in institutional functioning,
- counters ideologies presenting the status quo as being natural, necessary or individually and not socially constructed, and
- encourages forms of self-help, giving support to autonomous organization and action, e.g., by giving privileged access to operational information etc.),
- constructs the necessary informal networks and other instruments for information exchange that support such activities.

The area of autonomous organization, non-dependent on centers of power, might be an area that can develop at a time in the international North and South, and it may be a less conflicting field of intervention for scientists than highly institutionalized contexts with their vested resistances against change.

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¹ See, among many others, Jahoda (1982) and Levi (1987). However, there are some intriguing exceptions such as those reported in Zoll (1987) or those concerning collective unemployment reported by Osterland (1990). They raise the question of how we should define work. Instead of doing it, as usual, above all

in an essentialist way, i.e. referring to its intrinsic characteristics, we could consider more important that it is a regular human activity taking place in and being shaped by a specific substructure of society, its economic sector, and in the framework of this sector's specific social relations. Its objectively existential relevance - various subjective reinterpretations notwithstanding - may result not so much from the cultural meaning attached to it than from the work->income->survival link which is a central institutional feature of market economy societies. We know little about how unemployment, i.e. the absence of work for income, is subjectively experienced if this institutional link is weakened or altogether absent on a societal level - except for children, housewives and retired persons. These are categories that are socially defined (not existentially and even less genetically "programmed") as not having to engage in the work force. Frequently, the persons belonging to these categories (at least those living in the first and second situation) do not seem particularly de-personalized - work is legitimately absent from their role set, the mentioned institutional link is not relevant to them...