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LOCAL DEVELOPMENT IN THE GLOBAL NETWORK - THE ROLE OF
INDIVIDUAL CREATIVITY AND SOCIAL ENTREPRENEURSHIP (1)

In recent years, the national and local effects of the "Third Industrial Revolution" - based on micro-electronics and bio-engineering - have received ample attention from policy-makers, social scientists and the mass media. Generally, discussions and policies focus on the direct (socio-)economic consequences: changes in employment, competitiveness, working hours, industrial structure. Without disregarding these aspects, the following essay will try to demonstrate the necessity of thinking about economic change from another point of view. The authors of this essay are of the opinion that the far-reaching changes now being witnessed are not the result of abstract economic forces but of the effects - for better or for worse - of human creativity deployed in specific settings. After outlining the general economic situation, we shall therefore focus our analysis on human creativity and the spatial framework for its unfolding.

The essay is structured as follows: section 1 contains a short discussion of (the preconditions for) economic development. Section 2 examines the (potential) role of the Third Industrial Revolution in (all-round) economic development. Section 3 focuses on what we consider to be the essence of development: individual creativity as a social force. Finally, section 4 sketches a framework for the analysis of local development (potential) within a global context.

1. Economic growth: "beggar thy neighbour"

Equilibrium theory may seem to tell us something different, but development (economic or otherwise) is characterized by imbalance, by an overstepping of established boundaries, as, among others, Schumpeter argued. Through the ages, enterprising men and women have expanded the scope of their power over resources (our shorthand definition of the essence of economic behaviour) both spatially and through new technologies and methods. And since the days of Adam Smith, the most basic tenet of defenders of the market economy has been that an expanding division of (paid) labour - via an increasing level of specialization together with a simultaneous expansion of markets for raw materials, industrial goods,

services and labour - is wealth-bringing for its participants.

Industrial development may be interpreted as being the history of increasing footlooseness and of the systematic pursuit of innovation within individual units of production (cf. UNIDO 1985, pt. I). In this process, not only land, water, air and energy were turned into industrial resources. As well, men and women became human resources and political units became organizational resources or parameters influencing rather than directing development. The dramatic wealth-creating potential of industrial development - the key element in the internationalization process - was not equally distributed, nor was the pattern of unequal distribution stable: "... rather than expanding the domain of choice uniformly, growth expands choice in some directions but restricts it in others. Economists usually lump these restrictions under the rubric 'externalities'; in economics as in medieval demonology, to name a devil is to exorcise it." (Marglin 1984, p. 41). Growth has its costs, and if growth - of a firm or a country - is to be unrestrained, the costs will have to be shifted elsewhere. "Beggar thy neighbour", rather than a general growth of welfare through the supposed free play of market forces seems to have characterized modern economic history (cf. a.o. Kapp 1977) (2).

Externalization does not only take place on the territorial level - the same mechanism operates among population groups, classes, on local, national and global levels. Major examples of externalization include the shifting of economic burdens:

- from capitalist and landowning classes to peasants and wage-earners;
- from industrialized countries in the "North" to countries in the "South";
- from industrial societies to nature;
- from men to women, who provide unpaid labour at home and cheap labour in the market;
- from one generation to the next.

In the course of the last 60 years the workers in most industrialized countries have benefited enough from economic progress for the intensity of anti-capitalist protest to decrease dramatically. But a large part of the cost of the development from which they benefited was borne by the populations in the global (semi-)colonial periphery which provided cheap inputs. The problem now arising is that the emergence of a global economy makes further shifts of the economic burden more and more difficult, and therefore general development of the underdeveloped countries is unthinkable within the old development pattern characterized by the export

of externalities. "The world economy is a closed system by logical necessity." (Borner 1986, ch. 16)

2. "High tech" - a way to balanced general development?

It is often argued (cf. a.o. Tichy 1985) that the Third Industrial Revolution offers great scope for decentralized development through small enterprises, and that therefore new technologies could help to solve the one-sided development pattern now prevailing. Although the overall trends in development would still be determined by the transnational corporations, the flexibility of small enterprises would enable the latter to react faster to change in the techno-economic climate. The labour-saving, space-saving and time-saving aspects of micro-electronics would, moreover, enable small firms to produce as much output as a large industrial firm in earlier days. To what extent does this argument hold true?

For a start, a distinction must be made between the developed and underdeveloped parts of the world. Underdeveloped countries do not play an active role in the highly sophisticated Third Industrial Revolution. With the exception of some countries marginally involved in computer design, the Third World is reduced to serving as a location for routinized manufacturing operations which are the end product of this revolution. The centres of innovation are all located in the developed world; the highly complicated nature of the technologies and their close relationship to fundamental scientific research preclude the diffusion of the key innovative activities. Other factors militating against a more even distribution of R & D and its benefits are the enormous costs of basic research and the fact that science is a weapon in international economic and political competition (3). In all countries which play a significant role in the present industrial revolution, the government is heavily involved in the struggle for international techno-economic dominance.

The above does not prevent derived product or process innovation from taking place outside the centres of innovation; there are also numerous examples of small enterprises filling this "niche" (cf. e.g. Piore and Sabel 1983). But it is a technologically dependent type of innovation. In the markets for new products, small enterprises may be able to make adventurous moves because they operate in a market which is as yet partly terra incognita. Today's sophisticated communication systems facilitate such moves. They also enhance competition, however, because of the speed with which market information is made available. Add to this the much shorter

life cycle of high-tech products, and the conclusion that competition becomes more aggressive presents itself (Intermediar 1985a, p. 39 ff.; Economist 1986, p. 20). Once again, markets will come to be dominated by large firms.

Decentralization however does take place. On a global scale, routinized elements in the production process of modern products are shifted to cheap-labour locations, with central management in a "remote control" function. Within developed countries, computer networks can be used to create a new type of cottage industry, with the producer working at the home terminal (4).

The decentralization of industrial activities and the concentration of the innovation process has resulted in a new pattern of locational preferences. The new pattern of growth poles consists of centres of industrial innovations, actively linked to one another in a global network of what Friedmann calls world cities. This leaves the majority of sub-national regions to compete world-wide with other regions for the location of employment-bringing industrial activities inside their boundaries. One-time centres of industrial growth - the Ruhr, Liverpool, Pittsburgh, the Lorraine - are declining. The areas which have become locations for high-tech based production are far from safe, however, because of the rapid succession of innovations and the instability of markets. Such government policy as exists in developed countries to deal with these problems does not seem too successful at present (5).

Yet, as indicated by some authors (Perrin 1984, Stöhr 1985), the potential for viable local economic activities and services on the basis of decentralizable new technologies is theoretically quite large. In some countries, local media services have benefited considerably from these technologies. Personal computers could be used to organize nationwide "bottom-up" initiatives. The privatization of government telecommunication services could, however, prove an obstacle for the growth of such initiatives. In the name of efficiency and lower costs, private companies will tend to concentrate resources on the most profitable markets, the densely populated urban regions (Jacobson 1985). Consequently, the quality of services in more marginal areas will deteriorate. Also, competition among firms may lead to non-compatible networks: in the US, several data communications networks exist "which cannot communicate with each other" (Intermediar 1985a, p. 17).

In underdeveloped countries, integrated development using "high tech"

is even further away. Most underdeveloped countries are not coherent social or economic units. They are often no more than administrative units, a legacy of the colonial era. The efficient use of modern technology is unthinkable without a highly developed physical and social infrastructure, both of which tend to be very defective. Technical experts and scientists capable of doing fundamental research in Third World countries tend to emigrate to developed countries where career opportunities are more readily available.

In "attempts to catch up", Third World countries have indebted themselves for amounts which often far exceed their national product. Because profitable, foreign-exchange earning industries failed to take off, many of these countries are now saddled with a stock of capital goods which cannot be used profitably in the prevailing economic, social and physical environment, and often cannot be used at all (UNIDO 1986a) (6). Nor do the traditional foreign exchange earners of these countries - raw materials - offer a way out: the world crisis and the increasing substitutability of many raw materials (a consequence of technological innovation) have led to a situation where the "solvent consumer" dictates market prices (Chalmin 1985).

At the present juncture, policies and strategies for development of marginal(ized) regions and countries face a bankruptcy of the accepted models of economic development. The new technologies do not offer a general way out: in many cases the politico-economic framework in which their diffusion takes place widens rather than narrows development gaps. The global crisis has also contributed to a questioning of the concept of "development" as such. Precisely in the core areas of the developed world, many people, the great majority of them from groups which have benefited most from economic development, are no longer obsessed with questions of having and accumulating. There is a new concern for being, for emotional and mental health and personal development, a concern for the destruction of the natural environment, a revulsion against life which is "made ... into a sort of parody of an accountant's nightmare" (Keynes 1938, p. 763).

These concerns may be criticized from a Third World perspective: long-term thinking and personal development seems irrelevant beside the magnitude and variety of problems which call urgently for a solution. Yet, how many Third World problems have been solved by short-term policies, "crisis intervention" and reliance on a "Northern" development model, the shortcomings of which are now obvious? Some Third World countries, mainly

Asian, may be escaping from the "poverty trap", but social, economic and ecological disasters are becoming more and more common, especially in Africa. There are sufficient arguments in favour of a radically different approach to development. An alternative practice of development in today's complex world requires not only political commitment to working toward change but firstly new ideas on how to solve the problems of poverty and environmental degradation simultaneously. Instead of limiting our concept of innovation to that of entrepreneurial innovation in the context of existing economic structures, we should expand it to include social entrepreneurship and innovation which is economically and ecologically sound and capable of tackling global problems. Whence and whither innovation, creativity?

3. Innovation: individual creativity and moral judgement

In market economies, the struggle for power over resources is intimately linked to a continuous development of new products and a revolutionizing of the means of production (cf. e.g. Howard/King 1977, p. 15). Since the "First Industrial Revolution", the upward spiral of competition has also led to a correspondingly increased harnessing of mankind's innovative capacity to economic gain. What is lacking in most analyses of modern economic trends is a realization of the fact that innovative activity can either reinforce the trends which dominate society - to successfully adapt - or it can consciously try to alter those trends - to create an alternative. We will attempt at least to begin an investigation of innovation behaviour and innovative activities which are not directed at increasing competition in international markets. A first step towards this end is to examine critically the dominant concept of "innovative behaviour", which has been identified - since Smith and especially Schumpeter - as the core of growth and change in the international division of labour.

Political economists, regional scientists and geographers usually treat innovative potential or capacity as a factor of production in the production functions of both firms and regions (Millendorfer/Gaspari 1983). Four concepts are commonly used to assess this capacity (Brugger/Stuckey 1985):

1. Structural change: which branches/regions are competing successfully?
2. Inputs: what is the production function which leads to innovative performance of a firm/region?
3. Outputs: which firms/regions market new products and tap new markets successfully?

4. Diffusion: which firms/regions show a high rate of adoption of new innovations which can be purchased (or copied) from other even more innovative firms/regions?

Some studies go further and break down the regional and/or entrepreneurial innovative factor of production into "individuals". The research question becomes: how many innovative individuals live in a region or work in a firm? Innovative individuals are identified as the key factor and at the same time, the limiting factor in the world market economy (Sikka 1984).

From the point of view of e.g. national governments intent on the preservation or growth of the market economy this answer is logically correct and realistic. The Hayek assessment of Switzerland's two technical universities (7) is an excellent example of this type of thinking: the curriculum of the universities must be economically appropriate and of high enough quality to provide the innovative workers and scientists needed in Swiss firms. But, as the *Neue Zürcher Zeitung* noted in its editorial on the Hayek report, even such thinking and such analyses do not really go to the core of the problem: "A certain shift towards the engineering sciences - in research, which would also benefit training - is also advocated by the Swiss National Research Foundation. It would, however, be wrong to expect this to be a guarantee for an economy which achieves even more, because the supply of innovations depends on a variety of human factors, especially those which can hardly be influenced." (*Neue Zürcher Zeitung*, 1985b, p. 19 - authors' translation) What are these human factors which can "hardly be influenced"?

An innovation is a human act, which results in the end from the idea of a particular individual and the act of the same and/or other individuals. An innovation is an idea put into practice. Thus, we have to look at the individual person who has the ideas and at the person(s) who transform(s) these ideas into an impulse in the material environment. This step in researching innovative capacity is rarely undertaken by economists, regionalists or geographers; it is external to their frame of thinking. And if they take the step, they usually stop at that point where the Hayek report stops - at recommendations for curriculum in the schooling process. Current debate and legislation about the introduction of the subject of electronics and computer use in the schools is an excellent illustration of this type of thinking. Among most economists as well as among sociologists, pedagogues and psychologists, it is simply assumed that

intelligent children - if given the right subjects to digest within their schooling process - will become the raw material called "innovative human resources", ready for employment in local, regional and national production activities (8).

This type of thinking bypasses two crucial questions, a general one and a question from the "utilitarian" point of view:

- How does one raise and educate a child to that he or she is capable of innovative/creative thinking and innovative behaviour, rather than just adaptive behaviour? What is thinking? What is an idea?
- How does one "guarantee" that once innovative thinking is "produced" in a "human resource", the innovative individual will put his or her innovative capacity at the service of profit-oriented and/or other demands of the dominant social system?

The first question is a question about human nature and human development, about the awakening and strengthening of the capacities for thinking and doing in a child. Pedagogy must nourish these capacities in such a way that the creativity of the child is not lost on the way to its becoming an adult (cf. Schubert, forthcoming) and self-development must continue to nourish the creative adult (cf. Stuckey, forthcoming).

Creativity is something different from directly applicable (profitable) innovation. It heavily depends on "open ended childlike curiosity" (Cooley 1980, p. 27), on "working in a non-linear way" (ibid.) Could not the present-day fascination of many educators with electronics and its pre-ordained logic cause the capacity for non-linear thinking to atrophy, even if something else on the curriculum counterbalances it (9)? As William H. Whyte pointed out in "The Organization Man", a preoccupation with directly applicable research "in the long run ... may actually slow down the rate of basic discovery it feeds on" (as quoted by Cooley 1980, p. 59; cf. also *Economist* 1986, p. 19).

Part of the answer to the first question, therefore, is that innovative thinking cannot be guaranteed or directly achieved - it can be encouraged, however, through education based on the needs of children rather than of (certain established groups in) society.

The second question is a moral question - to what end and in what way do creative individuals dedicate their powers of thinking and doing? This question is now being addressed by scientists in such diverse fields as biology and genetics (e.g. gene manipulation, the environment) and education (e.g. the effects of television, video, electronics, etc. on

children, as well as adults - cf. Herbig 1983, Lorenz 1983, Turkle 1984, Harwood 1979, Weizenbaum 1979). Add to this the growing doubts about chemicals in agriculture and foods, chemical and technological treatment of illness and disease and one faces a basic human dilemma: *the growth sectors of the international market economy - chemicals and pharmaceuticals, electronics, bio-technologies, etc. - are precisely the areas in which a growing number of individuals - scientists and young people in particular - are questioning not just the morality of the distribution of economic benefits, but in addition the morality of the innovative idea - of the innovative products themselves.* Concern for equity in participation in the innovative process and in the distribution of its financial and material fruits still avoids going to the heart of the matter: the morality of the creative moment itself. What are the moral implications of new ideas, products and ways of producing and distributing material goods? This question cannot be answered by society at large. It can only be answered by (socially conscious) creative and innovative individuals themselves; and the history of mankind is studded with examples of innovators who have refused to aid and abet the status quo, whatever the personal cost.

4. Networks and catchment areas: the region as a stage for history-makers

Where economic entrepreneurship cannot be relied upon to provide or retain a basis for local development, individuals who do not restrict the dedication of their creativity to personal economic gain, but who are capable of seeing beyond this narrowly instrumental concept of development, are needed to preserve or revive localities and regions as viable entities. These are the "social entrepreneurs". Their task is complex, for: "... the structural frame of analysis for social reality in its spaceness ... should ... have the following properties: first of all, it should account for every level of society, the economic, the social, the political and the cultural ... it should pay sufficient attention to the natural and biological sub-strata of social reality." (10) The complexity of the task, which reflects the complexity of the global economy, also makes it necessary to re-think our concepts of "the region".

In much of the literature, "region" is a term loosely applied to a research object which is considered to be a coherent spatial (and social) unit. It is generally a sub-national, supra-local phenomenon, occasionally a supra-national phenomenon. In the pre-industrial and pre-colonial periods, when exchanges between areas were limited, it may have been possible to

delimit such areas (the "pays" of traditional French geography). These areas were certainly not socially harmonious, free of contradictions, but to a large extent they were, simultaneously, political, economic and cultural units. Such closely-knit societies occupying a limited territory generally characterized life until the "First Industrial Revolution". Relationships were and had to be characterized by a varying but important degree of give and take. Overexploitation of nature and human beings was common enough, but its scale tended to be limited because the exploiter could not easily escape the negative consequences. The large-scale, systematic "externalization" of negative consequences was only made possible by the Industrial Revolution, which tapped resources hitherto unavailable and accelerated the internationalization of economic life.

The internationalization of economic life, the emergence of industrialized, integrated nation-states and colonialism (which carved out territories and exploited them without much regard for their internal coherence) led to a quick decline of the region in the above mentioned sense. The region came to be seen either as a successful or unsuccessful adapter - most often in terms of exports and imports - to the demands of the world market economy.

More recently, analysts have begun to put emphasis on the endogenous capacity and productive capacity of individual regions. They are now sometimes characterized and treated - even analytically - as potential history-makers and not just as history-takers. There is now room in regional politics for the ideas and praxis of development from below" (Stöhr/Fraser 1981; Bassand et al. 1985; Friedmann/Sandcock forthcoming).

A renewed interest in regional/local development is not just a matter of "small is beautiful". For most people, the spatial frame of reference for everyday life, even in highly developed countries, is still restricted. Jobs, shops, day-to-day services, schooling, private contacts and recreation facilities - these major elements in the life of individuals are generally found within a relatively limited area. The many-sided, intensive contacts within a relatively limited area. The many-sided, intensive contacts within this space lead to the formation of a social fabric comprised of many strands. This is multifunctional space. Regions which answer to this description have, however, become part of much larger entities, which deeply influence them and erode their coherence. Of course a particular geographical space can still be the object of social research; but a new concept of the "region" is needed if social scientists are to understand what

is happening. We shall have to look at Törnqvist's "contact systems", at the "space of flows" which has come to dominate the everyday "space of places" (Castells 1985). Focussing on economic life, "the economy of a given local area will be the complex result of the combination of its succession of roles within the series of wider, national and international, spatial divisions of labour" (Massey 1979).

Analytical work will therefore benefit if we see "regionalization" as a process whereby particular phenomena are linked into networks of a more general significance. Regions become the spatial expression of specific sets of social relations, "catchment areas", the term "spatial" reminding us that economic development and the division of labour are not abstract phenomena which are unrelated to social or natural environments (11). If we think of regions as networks, the individual person's or firm's region would be his/her/its sociospatial "unit of reference" (which may well be transnational). The regional problem would then become the problem of overlapping and conflicting networks at given points in space. The central conflict from a regional scientist's point of view would be the conflict between the integrated, multi-faced lifespaces (Brugger et. al. 1984, p. 34) which is "home" to people, and the monoculture of the transnationalized economy (cf. Friedmann/Weaver 1979), with the latter now dominating the conflict. "Tribalism" (Castells 1985), an attempt to organize life in all its aspects within a limited group and space, is one possible reaction. But the low living standards, stagnation and xenophobia which are the likely consequences of this strategy hardly seem to recommend themselves, and reducing activities and relationships to the local level would not touch the essential problems of power relationships. Furthermore, many of the preconditions of development do not and cannot exist at a local level only (science, finance, etc.), and trying to survive as a small, inward-looking unit is bound to lead to a weakened position vis-à-vis stronger, larger units (cf. Moulaert/Willekens 1985).

To realize a strengthening of the internal structure of a territory, territorial political power vis-à-vis national (and transnational) power will have to be reinforced (12), while within the region active participation in decision-making must be expanded to tap creative resources for bottom-up development (see e.g. Friedmann/Weaver 1979, pp. 195 - 196). Here, very much depends on the strength of democratic traditions and on the type of social entrepreneurs emerging in the context of bottom-up activities. An

often-heard criticism of social entrepreneurs who lead bottom-up movements is that they themselves come from an elite, and often from "the outside"; they tend, in other words, to have a supra-regional background - certainly culturally. But is an understanding of the importance of local life-space within the world at large not more essential than just being rooted locally? People who are able to see (and deal with) the world as a whole are essential for the success of "bottom-up" initiatives (cf. Güller 1986).

In the present-day world, the power of regional social entrepreneurs is not sufficient to redress the balance between functional and territorial development. On the one hand, co-operation between the new breed of regional developers will have to be intensified - the Sigriswil and FÜRIGEN conferences in Switzerland (Bassand et al. 1985) (13) are examples. Another example of "transnational" economic co-operation among regions, a network expansion to counter the negative consequences of the development of the global economy, is to be found in Scandinavia (Financial Times 1985). It is hardly accidental that the "Mid-Nordic Region" emerged where cultural relations (between the three countries involved) have always been very intense.

On the other hand, the state will continue to play a major role in the facilitation or obstruction of territorial development. In most countries political power is however in the hands of those to whom global networks (in which they are themselves heavily involved) and/or their own power matter more than local communities. In Western Europe, though, there is at least some scope for politically successful bottom-up initiatives within the framework of the state. Here the state can be made to support and co-ordinate a "meshing process" which integrates the local, the national and the global, the territorial and the functional, not only in the field of economics, but in all major aspects of human life.

The scope for bottom-up initiatives to ensure the preservation or revival of "territorial communities" in developing countries is much smaller, although steps in that direction have e.g. been taken in China. Priority in these countries, however, is being given to national integration; socio-culturally and economically many developing countries hardly exist as units. The frame of reference for most people is the smaller network of the ethnic group; decision-makers who no longer represent their ethnic group (are) often (forced to) identify with the global networks. The energies and creativity of only a few people are directed to strengthening the network called nation-state (14). Under such circumstances, stimulating "territorial

communities" may literally invite "tribalism".

Yet, developing countries can benefit from stimulating local development, reducing the dependence on global networks and thus reducing their economic vulnerability. A shift from exports crops (a highly unstable source of foreign exchange) to increased local self-sufficiency in food, for example, would help to relieve the chronic food shortages in many countries. Intensified local processing of natural resources provides employment (which again may slow down the drift to the big cities) and increases domestic value added. Among peasants and "informal sector" entrepreneurs there is a large (and largely untapped) reservoir of local expertise which - when strengthened by training, extension and credit services - can help to lay the foundations for a more integrated national development (cf. e.g. Blaikie 1985, pp. 155 - 156; Heierli 1985, UNIDO 1986b).

For the developing countries, the same applies as for developed countries: unrestrained adaptation to global economic networks may work miracles in the transformation of matter, but the consequences for the natural environment, society and individual creativity are more often than not disastrous. The negative consequence of the development model based on economic utilitarianism can no longer be externalized. As a countervailing power, both the North and the South need more socially-oriented local entrepreneurship, which retains its territorial basis without turning its back on the larger networks.

Notes

- (1) This essay has been inspired by our work on International economic restructuring and the territorial community, Vienna 1985, a publication of the UN Industrial Development Organization. A revised edition will be published in 1987 by Gower Press, Aldershot, under the title International economic restructuring and the regional community. We would like to thank Wilfried Lütkenhorst and Herwig Palme for their comments on earlier versions of this article.
- (2) Even on a purely theoretical level, perfect competition or the perfect market seem nonsensical concepts: would it be logically possible to explain the rise of new firms without the existence of market or competitive imperfections providing "niches" for these firms?
- (3) In the US, anti-trust legislation has been largely abolished for R & D companies (Intermediar, 1985c, p. 33).
- (4) The disappearance of large concentrations of people working under identical circumstances and the replacement of skilled labour (whose skill monopoly could be used against management) by machines programmed by white collar workers (who tend to identify with

management) have weakened the labour movement. "People are trouble, but machines obey" (headline in The Engineer, 14. Sept. 1978, quoted by Cooley 1980, p. 74).

- (5) The problematic relationship between "high tech" and the natural environment does not appear to be a major area of government concern anywhere. Yet it is very hard to believe that e.g. the consequences of bio-engineering will be environmentally neutral. Let us just mention that experiments with anthrax virus during World War II have left a Scottish island permanently uninhabitable. After Chernobyl, the doubtful blessings of atomic energy should be clear to anyone. For the micro-electronics industry, a single example will also serve to illustrate the problem: groundwater in Silicon Valley has been heavily polluted by toxic chemicals used in the manufacturing of chips (Spiegel 1985). This new threat to drinking water supplies (more essential to human civilization than the internal combustion engine or the data processor) comes at a point when we have barely begun to discover the extent to which these supplies were polluted during previous stages of economic development, as documentary evidence on the countries bordering on the Rhine shows (cf. Kern 1985; Spiegel 1987).
- (6) The few developing countries which show signs of catching up are in a very special position: Taiwan and South Korea have long benefited from politically-motivated US support and have a history of highly intensive economic contacts with Japan; both the US and Japan have made major contributions towards the building up of an "industrial culture" (cf. Miyakawa 1985). A city-state like Singapore can hardly be called a developing country - even as a colony it was equipped with a reasonably advanced infrastructure and reached a fairly high degree of development. China, India and Brazil are countries with vast natural and human resources and potentially large internal markets.
- (7) Extensively reviewed in the Neue Zürcher Zeitung, 26. July, 1985.
- (8) See the lively debate surrounding current attempts to alter the curriculum of primary schools in the canton of Zürich - the attempt to introduce a curriculum based on a cybernetic view of children's learning.
- (9) Research in the FRG, Austria, Hungary and Switzerland has e.g. shown the importance of musical education in stimulating creative intelligence - cf. Neue Zürcher Zeitung 1985a.
- (10) Frank Moulaert, during a plenary discussion at the Symposium on Regional Development processes and Policies and the Changing International Division of Labour, Vienna, August 1984. This symposium was the basis for the UNIDO publication mentioned in note 1.
- (11) Concrete relationships automatically include the man-nature relationship: "... industrial societies have developed a complex technostucture which gives the impression that nature itself has become more and more indispensable. Such an impression is wrong, in fact global industrialization needs more nature, not less ... (because) ... the entire man-machine made technostucture is nothing but transformed nature." (Mezger 1984, p. 15). A conscious attempt to integrate the social and natural aspects of regional development has been made in Switzerland (Brugger et al. 1984; Güller 1986).
- (12) This also applies to control over regional natural resources. A larger measure of regional control is likely to increase economic benefits to the region, and to contribute to environmental stability: the "limits

- to growth", after all, will be more obvious than in a transnationalized economy.
- (13) The mimeoed collection of essays for the Fürigen conference (Pathways: a dialogue on alternatives for a time of transition) offers an interesting cross-section of the state of the present discussion on the subject.
- (14) For a discussion of the role of national elites in developing countries in the development process, see e.g. H. Elsenhans - "Rente, strukturelle Heterogenität und Staat: Entwicklungsperspektiven der Staatsklassen in der Dritten Welt", in: JEP 4/1986, pp. 21 - 36.

References

- Bassand, M., Brugger, E. A., Bryden, J., Friedmann, J., Stuckey, B. (1986), Self-reliant development in Europe: theory, problems, action, Aldershot.
- Blaikie, P. (1985), The political economy of soil erosion in developing countries, London/New York.
- Borner, S. (1986), New forms of internationalization: an assessment in the light of Swiss experience, Berlin.
- Brugger, E. A., Furrer, G., Messerli, B., Messerli, P. (ed.) (1984), Umbruch im Berggebiet/Les régions de montagne en mutation (English edition: The transformation of the Swiss mountain regions), Berne/Stuttgart.
- Brugger, E. A. and Stuckey, B. (1985), "International competition and self-reliant development in an open economy: the case of Switzerland", in: S. Musto (ed.), New Ways of development, New York.
- Castells, M. (1985), "Technological advance, economic restructuring and the spatial division of labour", in: UNIDO 1985, p. 57 - 82.
- Chalmin, Ph. (1985), "International commodities markets in perspective - structural and institutional changes", in: Raw Materials Report, vol. 3, no. 3, pp. 5 - 9.
- Cooley, M. (1980), Architect or Bee? the human/technology relationship, Slough.
- Corragio, J. L. (1983), "Social spaceness and the concept of Region", in: Moulaert/Salinas 1983, p. 21 - 32.
- Economist (1986), "The titans of high technology - Japan and the United States: a survey", Supplement, August 23.
- Financial Times (1985), "Mid-Nordic region", March 13, p. 23 ff.
- Friedmann, J. and Sandercock, L. (ed.), Citizen pilgrims: alternative responses to global crisis, Emmaus, Pa.
- Friedmann, J. and Weaver, C. (1979), Territory and function, London.
- Güller, P. (1986), Regional development policy in Swiss mountain areas, Zürich.
- Harwood, H. C. (1979), The way of a child, London.
- Heierli, U. (1986), "Division of labour and appropriate technology - from Adam Smith to Schumacher", in: Bassand et al.
- Herbig, J. (1983), Die Gen-Ingenieure, München.
- Howard, M. C. and King, J. E. (1977), The political economy of Karl Marx, Harlow.
- Intermediar (1985a), supplement on computers and communication, March 8.
- Intermediar (1985b), special issue on aspects of high technology, May 31.
- Intermediar (1985c), special issue on aspects of high technology, June 7.
- Jacobson, R. (forthcoming), "What are the possibilities of influencing existing structures of domination by using new technologies?", in: Friedmann/Sandercock.
- Kapp, K. W. (1977), "Die Umweltfrage als soziale Herausforderung", in: Sozialwissenschaften - wozu, Frankfurt/M.
- Kern, M. (1985), Wasser in Not. Die nächste Umweltkatastrophe, München.
- Keynes, J. M. (1933), "National self-sufficiency", in: The Yale Review, vol. XXII, no. 4, pp. 755 - 769.
- Lorenz, K. (1983), Der Abbau des Menschlichen, München/Zürich.
- Marglin, S. A. (1984), "The wealth of nations", in: The New York Review of Books, 19 July, pp. 41 - 44.
- Massey, D. (1979), "In what sense a regional problem", in: Regional Studies, vol. 13, pp. 233 - 243.
- Mezger, D. (1984), Finite resources - ecological and economic problems of Third World exporting countries, Starnberg (mimeo).
- Millendorfer, H. and Gaspari, C. (1983), Prognosen für Österreich: Fakten und Formeln der Entwicklung, Wien.
- Moulaert, F. and Salinas, P. W. (1983), Regional analysis and the new international division of labour, Boston/The Hague/London.
- Moulaert, F., and Willekens, F. (1985), "Decentralization in industrial policy in Belgium - towards a new economic feudalism?", in: UNIDO 1985b, pp. 397 - 425.
- Myiakawa, Y. (1985), "The metamorphosis of Japan's industrial system and the development of the international division of labour", in: UNIDO 1985b, pp. 195 - 217.
- Neue Zürcher Zeitung (1985a), "Intelligenter durch Musik?", 24. January, pp. 12 - 13.
- Neue Zürcher Zeitung (1985b), "Forderung des Schulrats nach 700 neuen Stellen; Hayek Studie über Personalbedarf, Rationalisierung und Strukturschwächen der ETH", 26. July, p. 29.
- Noyelle, Th. (1985), "The shift to services, technological change and the restructuring of the system of cities in the United States", in: UNIDO 1985b, pp. 239 - 263.
- Perrin, J. C. (1984), "La reconversion du bassin industriel d'Alès - contribution à une théorie de la dynamique locale", in: Revue d'Economie Régionale et Urbaine, vol. 3.
- Piore, M. J. and Sabel, Ch. (1983), "Italian small business development: Lessons for US industrial policy", in: Tyson, L. and Zysman, J., American Industry in international competition, Ithaca, pp. 391 - 421.
- Schubert, E. (forthcoming), "New ways of thinking", in: Friedmann/Sandercock.
- Simma, B. (1984), "Anforderung an die Unternehmensberatung aus der Sicht kleiner und mittlerer Betriebe", in: Brugger, E. A. (ed.) (1984), Regionale Innovationsprozesse und Innovationspolitik, Diessenhofen.
- Spiegel (1985), "Die dreckige Arbeit am sauberen Chip", no. 33, pp. 98 - 108.
- Spiegel (1987), "Was fließt, weiß nur der liebe Gott", no. 1, pp. 22 - 27.
- Stöhr, W. B. (1983), "Alternative räumliche Entwicklungsstrategien endogener 'selektiver Eigenständigkeit'", in: Österreichische Zeitschrift für Soziologie, vol. 8, no. 3, pp. 117 - 134.
- Stöhr, W. B. (1985), "Regional development strategies and the spatial division of labour", in: UNIDO 1985b, pp. 221 - 237.
- Stöhr, W. B. and Fraser Taylor, D. R. (1981), Development from above or below?, Chichester.
- Stuckey, B. (forthcoming), "Acting at home: the epistemology of

- autobiography", in: Friedmann/Sandercock (forthcoming).
- Tichy, G. (1985), "A sketch of a probabilistic modification of the product-cycle hypothesis to explain the problems of old industrial areas", in: UNIDO 1985b, pp. 83 - 102.
- Turkle, S. (1984), Die Wunschmaschine: vom Entstehen der Computerkultur, Reinbek bei Hamburg.
- UNIDO (1985), International economic restructuring and the territorial community, UNIDO/IS 571, Vienna.
- UNIDO (1986a), "Industry and external debt in Africa: a preliminary analysis", in: Industry and development, no. 17, pp. 1 - 64.
- UNIDO (1986b), Policies and strategies for small-scale industry development in Asia and the Pacific region, UNIDO/IS 617, Vienna.
- Weizenbaum, J. (1979), Die Macht der Computer und die Ohnmacht der Vernunft, Frankfurt/M.

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DEVELOPMENT AND AUTHORITARIANISM: AN EPITAPH ON SOCIAL ENGINEERING

I shall begin with an example from my own discipline, psychology. When the intelligence tests were developed in the 1910's, there was much discussion of their reliability and validity, including some spirited discussion of how, why and how far the tests measured human intelligence. It was reasonably clear to everybody that the tests were one way of measuring human intelligence and that the tests not only yielded approximate measures but also simplified a complex quality like intelligence. Gradually over the decades, there was a subtle change in the professional and lay attitudes towards the tests and the construct called human intelligence. Most textbooks began to reverse the relationship between IQ and intelligence. Intelligence tests were no longer an imperfect means of measuring the measurable aspects of intelligence; intelligence definitionally became what the intelligence tests measured.

Such beauties of operationalism and instrumentation are not unique to psychology. One can give examples from other areas of life, too. At one time it was closer to our consciousness that the thermometer was a way of measuring fever; now fever is defined strictly by thermometer readings, despite individual differences in 'normal' body temperature. One is tempted to hazard the guess that there is something in human nature which tempts us seek cognitive security by concretising not-easily-definable processes and qualities.

Something similar has happened with the concept of development. Development in its presently dominant sense was once a means of social transformation, a particular form of directed social change. Today development defines social change. So much so that if you are against development, most people presume that you are against all social change.

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