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LIBOR MUSIL

EXTERNALIZATION OF ENVIRONMENTAL RESPONSIBILITY

Results of two case studies concerning one of the Czechoslovak coal-mines are presented and discussed in the text. The first case study was performed in the Autumn 1988 and then was repeated in the Summer 1990. The goal of the whole research project which will continue after 1993 is to watch the process of (supposed) organizational adaptation of the coal-extraction-industry towards the environmental limits of its activity.

One of the most interesting features of the coal-mine's organization investigated both in 1988 and in 1990 was the effort of the coal-mine's community to avoid responsibility of the environmental consequences of the extraction. The organization which enables the coal-mine-community to achieve this goal is described in the article.

The hypothesis that the effort to avoid the environmental responsibility is an inherent feature of the industrial organization is discussed in the final part of the article.

"EXTERNALIZATION" VERSUS "INTERNALIZATION"

The market is not capable to keep the activity of economic agents within the limits of biosphere according to environmental scientists' point of view. They have been suggesting implementation of environmentally motivated state control of the market since the 1970s (Saint-Marc, 1979: 77 — 83, 173 — 174, 177 — 178; Brown, 1982: 284 — 287, 333 — 335; Ryll, 1987: 9 — 10; Enyedi, 1987: 24.) The political response to this suggestion is well known as the „New Interventionism“ (Jänicke, 1985: 27; Hailbroner, 1988: 32, 45 — 46). The environmentally oriented state control of the market is based on the principle of internalization of social costs generated by environmental destruction. Perpetrators of environmental damages should pay for the environmental harms caused by their economic activity according to this principle (Commoner, 1971: 269 — 270;

Ehrlich, 1977: 847 — 849; Jänicke, 1985: 31; Zimmermann, 1985: 1 — 3, 79 — 82). The most appropriate instrument of the internalization is taxation of environmental harms (Zimmermann, 1985: 48, 92).

The principle of internalization is usually conceptualized both in legal and economic terms. But there is an important ethical dimension to the concept — the internalization of environmental responsibility. This aspect is perceived in the above mentioned texts in terms of the lack of economic agents' environmental responsibility which is understood as obvious, and interpreted as the main ground of the state control, and which should be substituted by the pressure of the state intervention. According to this interpretation the environmentally irresponsible people should and could act by environment-friendly manner under the pressure of law and taxation. The environmental responsibility would be eventually (but not necessarily) the side effect of this pressure.

This assumption is doubtful according to my point of view. The environmental responsibility is the precondition of an effective influence of the environmentally motivated state control. There must be environmentally responsible people (at least some influential part of them) in the working-community so that the community can react appropriately on the state control's measures. These people could understand the original goals of the New Interventionism and that is why they could start the organizational and technological change necessary for the change of working-effects. The working-community cannot act by environment-friendly manner if its members cannot understand the claims articulated by environmental law, if they do not participate in the environmentally oriented consensus — at least to some extent. People who are socialized within the culture which is indifferent toward the environmental values perceive the environmentally motivated legal and economic measures of the state as something that has no sense or that is dangerous or hostile towards their goals (see Musil, 1991).

I want to demonstrate this hypothesis by an explanation of the "externalization of environmental responsibility" principle and by the example of its practical performance in the coal-extraction-industry in Czechoslovakia.

What is "externalization"? I understand it as the opposite of the above mentioned "internalization". It is an economic strategy based on a systematic (more or less rationally reflected) effort to avoid responsibility for the so-called side effects of the work. Members of the working-community try to achieve the only aim which has some sense in their eyes. It could be the "profit", or the "plan fulfillment", or the "mass consumption", or the "common welfare" etc. They cannot follow other goals if they want to achieve the only "obvious" aim by the most simplest manner. The effort to externalize the responsibility for all of the possible tasks except the achievement of the "right" goal can never fully reach the intended purpose. But if it becomes the leading organizational principle of cooperation, then there is less and less place for environmental responsibility in the working-community. The environmental responsibility thus becomes an unimportant and tolerated deviation whose agents are not able

to prevail and implant the idea of the New Interventionism into the organizational culture.

THE EXTERNALIZATION AND THE ORGANIZATIONAL CULTURE

The "externalization of environmental responsibility" principle have been the basic organizational rule of the whole Czechoslovak coal-extraction-industry since the early 1950s. A wide-range application of it took place many years before the articulation of the „environmental problem“ and was connected with the beginning of the state-directed, so called „planned“ economy. Its authors and their constituency consecrated the „plan fulfillment“ as the appropriate means to avoid market fluctuations as well as their social consequences and how to ensure the „common welfare“. According to the rationality of the „centrally planed economy“ the financial gains of the „basic economic units“ were distributed „rationally“ or „by scientific methods“ by the „central plane“ which enumerated budgets of individual Branch-Ministries and of all enterprises ruled by them. The budgets both of the Branch-Ministry as well as the factories ruled by it depended on two main factors: 1. the plan fulfillment and 2. the ability of the factory representatives to negotiate successfully with the superior branch or governmental body.

The response both of the ministries and of the enterprises ruled by them was an adaptation of their strategy. They formulated — by means of learnin by doing — the strategy of "avoid the plan fulfillment obstacles". This strategy became perceived as self-evident after some time of its operation and was embodied into the institutional environment of the enterprises.

We can illustrate this institutional framework by the example of the coal-mine's institutional environment existing — after forty years of „planned economy“ — in the Ostrava-Karviná District (North Moravia) in the late 1980s. The case study of the coal-mine realized in autumn 1988 shows that the selected coal-mine operated in the institutional environment consisting of the following elements:

— The hierarchically ordered and quantitatively defined production plan connected to the budget allocated by the Branch-Ministry, via the District-Coal-Mine-Corporation, to the hands of the coal-mine. This budget has been perceived as a sufficient financial base of the plan fulfillment and has relieved the coal-mine's staff of the basic dependency on its own financial gains. The coal-extraction-industry has been perceived as a priority for forty years by the political elite and the authors of the plan supported its activities regardless of their real financial effects.

— The possibility to negotiate with the superior bodies about the supplementary subsidies in case of financial shortage. The case of unsuccessful negotiation was rare because of the above mentioned priority and because of an involment of the superior bodies in the realization of common

strategy. The consequence of this procedure was that five from six top managers of the coal-mine interviewed in the Autumn 1988 said: "Financial resources were raised in some way each time, to come by supplies is more difficult..." The paternalism of the branch-bodies has enabled the top managers to ignore the relation between costs and gains. The consequence has been energy and material wastage and the (reflected or unreflected) ignorance of indirect environmental damages caused by the exploitation and processing of the natural resources.

— The state-granted budget and the shortage-negotiations have enabled the managers to ignore concerns about purchases of their supplies. The consequence has been energy and materials overconsumption. But the coal-mine has operated within the so called purchasing limits established by the District-Coal-Mine-Corporation. The function of this limit has not been to reduce the wastage. Its purpose has been to keep the purchasing activity of the coal-mine within the limits of economic possibilities of the state. We can understand the presence of the purchasing limit as an evidence that there has been a tendency towards wastage: The absence of economic limits to purchasing activities led to the establishment of an arbitrary limit. This limit has protected the state budget from the economical recklessness of the top managers.

— The substantial part of „environmental-damages-costs“ represents the deliveries to the "Environmental Harms and Compensations Fund" ruled by the District-Coal-Mine-corporation. This costs have been financed by the centrally allocated budget. That is why it was not perceived as a financial burden by the coal-mine's economists and by the top management.

— The environmental-damage-penalties have been paid from the coal-mine's profit (if there was one). But budget for the next financial year was never dependent on the level of this profit. The consequence has been indifference of the staff towards environmentally based financial duties of the coal-mine. 85 randomly selected employees interviewed in the Autumn 1988 answered the question: "Are you personally influenced by the fact that your enterprise pays money for the environmental damages?" The answers were: 1. One of the respondents said: "I work in the dust but they pay nothing to me." 2. 31,8% said: "I don't know..." or "I have never heard about it..." 3. 36,5% answered: "No, there is no influence on me." 4. 20% were not prepared for this question, but flexibly made the assumption: "There is the influence on our common money..." 5. 10,5% said: "It bothers me that we pay the money but it is necessary to compensate the damages..." Generally speaking 70% of respondents articulated explicitly their personal indifference towards the environmental-damages- costs.

— The institution named "Recultivations" operating in the Ostrava-Karviná District has been a part of the District-Coal-Mine-Corporation. It has been financed by the "Environmental Harms and Compensations Fund" supported by the individual coal-mines' budgets (see above). The task of this institution was to deal with the wastes of coal-extraction and to recultivate soil. One of the results of its activity has been indif-

ference of the coal-mine's employees towards direct environmental consequences of their own working-activity. In many spontaneous interviews devoted to the wastes of extraction and to the landscape-destruction, the employees said: „That is the matter of the Recultivation's responsibility!“ Interviewed top managers assessed the operation of the Recultivations by this statement: „... It takes the burden off our available capacities.“

There is no sufficient reason to overestimate the institutional changes which have taken place in the Ostrava-Karviná District after 1989. The Branch-Ministry of Fuels and Energetic Affairs was canceled and the state-subsidies for the coal-extraction-industry were reduced. But the District-Coal-Mine-Corporation was preserved under a new label. Only one coal-mine has been separated from it as an independent enterprise. A second attempt to gain independence was successfully thwarted. The basic redistribution processes still take place within the District-Coal-Mine-Corporation. As a result we cannot expect any substantial changes before the privatization, if we can expect them at all.

Have there been any changes in the institutional environment of the coal-mine which was my research subject in 1988? A case study of the same enterprise performed in the Summer 1990 brought this picture:

— „... The production plan is determined as the amount of gains from successful sales...“, said the staff-member of Economic Department of the enterprise during an interview. The “determinator” has been the District-Coal-Mine-Corporation. “We are following the old trucks. We make deliveries and take the budget from our superior body...“

The plan has been defined in terms of “gains from successful sales” since 1990. But there have been no substantial changes of production tasks and goals because the employees (including the top managers) could imagine only one way to increase “gains”: The growth of production. Ideas to increase profit by reduction of costs or by improving quality of sold goods was never articulated in interviews. The terms of the plan-definition have been changed but the underlying intention of this change has not been understood. The coal-mine's community has kept following the strategy of “avoiding the plan fulfilment obstacles.”

— According to the opinion of 6 interviewed top managers there were more financial troubles than before 1990. But four of them said: “... We have financial resources. Problem is to obtain materials.“ It became the problem: “... to buy materials of sufficient quality...” One of the interviewed top managers pointed out the increasing level of prices. Another said: “... both is difficult ... there is lack of some kinds of materials sometimes... The financial problems are permanent.“ A financial expert of the enterprise interpreted the same situation by following words: “... We have no subsidies in 1990... If there had been lack of money for investment in previous times we were subsidized by the Ministry... We have nothing more now... We have taken credit for investment ... this year...”

— The coal-mine operated within the possibilities of purchasing limit stated by the District-Coal-Mine-Corporation in 1990.

— The “Recultivations” and the “Environmental Harms and Compensations Fund” have been still in the operation with all of the above mentioned consequences for the environmental responsibility — both in economic as well as ethical terms. There has been no substantial change in employees’ opinion about the personal influence of environmental costs “paid” by the coal-mine. There are the answers of 32 respondents (see the relevant question above): 1. “I do not know.” (37,5⁰/₀) 2. “There is no influence on my personal interests.” (31,5⁰/₀) 3. A flexible response to an unexpected question: “There is financial loss to the whole enterprise.” (15,6⁰/₀) 4. “The enterprise should pay for the environmental damages.” (15,6⁰/₀)

Despite of the organizational and economic changes the basic institutional structure followed the strategy of “avoiding the plan fulfilment obstacles” in 1990. I suppose that this institutional framework will survive until the so called „large-scale privatization“ of coal-extraction-industry.

People who have been working within the above described institutional environment for many years have created (in the process of “learning by doing“) an internal coal-mine’s organization fitting in the common branch-strategy. In this way, they could respond appropriately (by collective manner) to the superiors’ expectations following from the common branch-strategy and from the institutional framework of their industry.

The basic features of coal-mine’s organization fitting in the strategy of “avoiding the plan fulfilment obstacles” will be illustrated in the following text. The source of the empirical information are the two above-mentioned case studies of the coal-mine performed in 1988 and 1990. The interviews followed a standardized list of open questions. In both the cases (1988, 1990) all basic job-categories (the miners, the non-underground workers, the underground-technicians, the “white-collar” staff) were represented in the sample. The miners were rather underrepresented in both the samples (45,9⁰/₀ versus 63,5⁰/₀ in 1988, 59,4⁰/₀ versus 66,4⁰/₀ in 1990). The young miners below 19 (1988) or below 24 (1990) were underrepresented and the older employees over 50 were overrepresented in the samples. These fluctuations of statistical representativeness were the consequences of the limited willingness of young miners to take part in interview. Both the samples were representative from the point of view of sex distribution.

The substance of loyalty of the coal-mine’s employees towards the common branch-strategy are the common values which integrate the individual value orientations of the staff-members. Despite of the inevitable differences there are some consensus-creating values: 1. the living conditions of the family and the close family relations, 2. the job with the coal-mine as the instrument for improvement of family living conditions, and 3. the hard miners’ work which creates the basis of personal dignity

of "blackcollar" workers and of the miners' group integrity (see Premusová, Musil, 1991).

The respect towards the values of family life, household conditions, and instrumental usefulness of the job with the coal-mine represents the integration point of the whole coal-mine's community, regardless of the differences and contradictions between former or current „black-collar“ workers on the one hand and the technicians or the „white-collar“ staff on the other hand (see below).

The family life and the household conditions played the role of goal-value both in the 1988 and in the 1990 interviews. The value of the job with the coal-mine was presented as the instrument for the family and the household in the answers. These common values have been integrated into the common behavioral pattern of "father breadwinner". The respect towards this pattern has been the base of loyalty towards the common branch-strategy. The employees perceived the plan fulfilment and the effort to avoid the plan fulfilment obstacles as the best way to support the family-household and to make or to keep the family happy.

The distinction between "making it" and "keeping it" happy indicates the shift in the nature of the job-instrumentality that took place between 1988 and 1990. The stress upon the possibility "to earn money", typical in 1988, has been replaced by thinking of the job as the base for social security in 1990.

The pride and ethical glorification of manual work are peculiar to the miners (former and current). They understand their hard work as an ethical antithesis to the "comfortable office work". That is why they do not want to give to their co-workers any opportunity to say: "He is lazy and weak." As a result the miners work harder than the rational balance of „gains“ (wages which are perceived unjust by the miners) and of "losses" (the risk of damage to their health, weeked working hours, mental tensions etc.) would suggest to them. The plan fulfilment would not be possible without the collectively sacred pride of the manual work.

I can offer a hypothesis that only a few of the miners would be willing to support publicly the reduction of exploitation's speed. They would fear that their colleagues would interpret their attitudes as a sign of laziness. This circumstance could be an invisible obstacle to the effort to adjust the coal exploitation to the environmental limits.

There is a small proportion of respondents in the both samples whose answers signalize the presence of some "deviant" value orientation which has no common features with the prevailing living philosophy. A relatively small number of people (14,1% in 1988, 18,8% in 1990) spoke about the values of the health, the environment, the capacity of deep experience of life, the life without worries and without hurry, the freedom, the interesting work, the ability to be happy etc. The distinction between the common coal-mine philosophy on the one hand and the "deviant" value orientation on the other hand stimulates references to Fromm's distinction between "to have" and "to be" mode of life (Fromm, 1981). The employees who have got some experience in life and who inter-

preted their job in a more reflecting manner spoke about the "deviant" values more often than the others.

In contrast to 1988, in 1990 there appeared a relatively widespread (28,1%) new type of value orientation which combines the common value of financial security with the value of multicolored life in good social and physical environment. A typical statement which expressed this type of value orientation was: "Fine atmosphere at work and at home. The possibility to make the weekends more varied sometimes. The less uniform life creates closer family-relations. The monotonous life as well as the lack of money lead to conflicts. The good interrelations among people in the work as well as at home are important. We are lucky because we do not live in block of flats. We have trees and green environment in our neighbourhood." It is a question if this type of orientation is a randomly appearing phenomenon or represents an emerging tendency to add the environmental values to the more traditional set of values.

The common respect of the "father breadwinner" pattern as the "obvious" aim of an individual activity was giving the sense to the plan fulfilment in the eyes of the coal-mine's employees. Production of a prescribed amount of coal means to earn money for the family and its household on the one hand and to be permanently in a hurry on the other hand. That is why the strategy of miners' work (which determine the strategy of the whole coal-mine) is: "To catch it!" The cooperation rules coordinating the everyday work of the coal-mine are derived from this strategy.

The basic rule is: "To catch it means to avoid all obstacles which could retard the work." This rule is perceived as self-evident and nobody speaks about it spontaneously. I spoke with the coal-mine's employees about various aspects of potential environment-friendly changes of their work. I could hear many times: "It could retard us." This statement is the everyday version of the strategy "to avoid the plan fulfilment obstacles".

What rules of everyday cooperation this strategy implies? To avoid plan fulfilment obstacles means:

— To be fully concentrated on the quantitatively and physically defined working goals. "The meters and tons, that is what we get money for."

— To be fully concentrated on the own specialized task. The employees perceived as obvious that they ignore problems of other specialized jobs (the jobs preceding their task as well as those following it): "Everyone has his own duties." At the same time, they perceived as self-evident the need for mutual help within the working group (it means within the specialized task).

— To be fully concentrated on the current obstacles (the lack of materials, the unexpected geological changes etc.) so that the group would be able to perform (step by step) the month-plan and to gain the fulfilment-bonus.

— To accept only hard-working men who know "what to do" very

well. There is no time for learning and for complains about the exhaustion, illness, etc.

— To rely on the technological experience of the working-group: "Nobody knows what to do better than we."

It is possible to summarize these organizational principles in following terms:

- quantity (the plan fulfilment or overfulfilment),
- specialization of tasks and responsibilities,
- mutual help and reliability within the task-specialized group,
- short-term goals,
- uncompromising toughness,
- routine and experience,
- technological self-reliance.

These are the main principles which the coal-mine's organization lives by. Their everyday respect as well as the exclusion of other organizational principles (the respect for them "could retard the performance") should facilitate the plan fulfilment. Some of these excluded principles are on the following list:

- quality and thrift,
- responsibility for the so called "side effects" which "should be solved by other specialists who are paid for it",
- civic responsibility which should be the individuals' "private matter" and which has no place in the cooperation process of the working-group,
- respect towards the long-term effects of the work,
- tolerance of other opinions,
- learning and innovation,
- influence of "outside experience" including scientific information as well as bureaucratic control.

Historical roots of this organizational pattern are connected with the Stakhanovite movement which emerged in the "heroic" times of the first "five-year-plans" in the former Soviet Union. According to the Soviet propaganda, Stakhanov was the hard-working miner who was able the overfulfil more than twice the production plan. The important feature of the Stakhanov's propaganda was the glorification of manual work. The manual performance was interpreted as the base of economic growth. The myth of Stakhanov was institutionalized in the form of a bureaucratically supported, and widespread "Stakhanovite movement". It represented an attempt to stimulate the participation of Soviet workers in the bureaucratically ruled state economy. This "movement" became an inherent element of the planned economy. The above described set of organizational rules could serve as a description of the Stakhanov's "heroic" effort very well.

The so called "Socialist-Initiative-Movement" — a direct heritage of

Soviet Stakhanov's tradition — functioned successfully in the Czechoslovak coal-extraction-industry until 1989. Despite the fact of a wide-range, bureaucratically organized "participation" of all the miners' groups in this "movement" there was a small number of "hard-working" miners' groups which have got special supplies. This support was very important in the shortage-economy and enabled miners to achieve extraordinary performances and to gain salaries which were higher than usual. The difference between the "highly-productive" and other working-groups implied the difference in the respect for the organizational rules. The above-mentioned organizational pattern has not been realized punctually by all the working-groups. The best performers of the coal-mine's organizational model were the "hard-working" and "highly-productive" groups. But there were some interesting, more or less „deviant“ groups too. Despite of this fact the basic trend characterized by a consistent set of the above mentioned organizational rules has prevailed in the Czechoslovak coal-extraction-industry since the 1950s. Many groups who have worked in different manner have perceived the above described organizational pattern as "right", "obvious" or "normal".

If we select the principles of quantity, specialization, short-term goals, toughness, and routine, we can see the core features of Taylor's organization (Taylor, 1947). This similarity shows that the principle "to catch it" as well as the Stakhanov's organizational strategy are only specific versions of the classical industrial organization adopted towards the goals and institutions of the centrally planed economy.

THE ENVIRONMENTAL CONSCIOUSNESS IN CONDITIONS OF EXTERNALIZATION

The coal-mine's employees have omitted those aspects of their work that have not been directly connected with the achievement of the physically and quantitatively defined short-term goals. This has been the case of interrelations between the exploitation of coal on the one hand and the damage done to the landscape and the environment on the other hand. The environmental consequences of the coal extraction were not sufficiently known at the birth of the strategy "to avoid plan fulfilment obstacles" in the 1950s. As a result the authors of this strategy were not able (regardless they probably were not willing) to respect the environmental consequences of coal-extraction. The coal-mine-community has been oriented in favor of strategy generated in the 1950s for over forty years. That is why the coal-mine's employees are not accustomed to understanding and to respecting environmental limits of their work even environmental consequences of industrial production are becoming well known ever more. The institutions of "Recultivations" and "Environmental Harms and Compensations Fund" have been helping to externalize the increasingly evident environmental responsibilities of coal-mine's employees since the 1960s.

There is the vicious circle caused by the organization of coal-extraction-industry: the environmental consciousness of the coal-mine's employees is not developed to such extent that they could redefine the branch-strategy, their personal goals as well as the organizational rules following from them. The reproduction of the coal-mine's organization engenders resistance of the employees against the environmental responsibility and by this way obstructs their understanding of elementary environmental interrelations. People sharing the branch-strategy of the coal-extraction-industry are not cognitively prepared to accept the basic principles of environment-friendly behaviour.

What is the perception of environmental problems by the coal-mine's employees in these circumstances?

To answer this question I will use the information gained by the case studies performed in 1988 and 1990 (see above).

Most of the interviewed employees perceived the state of the environment as alarming (84,7⁰/₁₀₀ in 1988, 90,7⁰/₁₀₀ in 1990). Their response to the explicit question was a consequence of two factors: 1. The "boom" of environmentally relevant information that took place after 1985, and especially after 1989, attracted the attention of the Czechoslovak public to the environmental problems and created an atmosphere of general dissatisfaction with the environmental situation. The environmental critique has been one of the main arguments used against the Communists power. The manifestation of environmental dissatisfaction became quite conventional in these circumstances. The respondents probably followed this convention to some extent.

2. The question: „Do you think that the environmental situation is alarming in Czechoslovakia?“ was rather suggestive and a positive response to this question was very likely in the above-mentioned circumstances. But what was more interesting to me was the question why the respondents felt alarmed. According to what criterion they assessed the environmental situation?

There have been four most frequently given reasons for respondents' alarm, as reflected in the answers: 1. the bad state of the nature, especially of forests (54,2⁰/₁₀₀ in 1988, 56,3⁰/₁₀₀ in 1990), 2. the air pollution (43,5⁰/₁₀₀ in 1988, 31,3⁰/₁₀₀ in 1990), 3. the water pollution (25,9⁰/₁₀₀ in 1988, 15,6⁰/₁₀₀ in 1990), and 4. the overconcentration of industrial plants (29,4⁰/₁₀₀ in 1988, 9,4⁰/₁₀₀ in 1990). On the other side, there were the least frequently given reasons for alarmed feelings of the respondents in 1988: the disturbed environmental balance, the disturbance of water circulation in the landscape, the changes of climate, the wastage, the global pollution, the exhaustion of natural resources, the greenhouse-effect, the destruction of soil, etc. There were only 2,4⁰/₁₀₀ of the respondents who stated this the least frequent reasons in 1988 but no one in 1990. The disappearance of this cognitively more subtle reasons could be rooted in the decrease of their attractiveness after two or three years of their „boom“ in mass-media. This supposition is supported by the fact that some of the respondents stated a new reason of their alarming feeling in 1990: "They peak on TV about it." This answer was not here in 1988.

The comparison of the most and least frequent reasons of alarming feelings shows that the respondents have assessed the environmental situation mostly by means of their direct personal experience. They have perceived the environmental problem as a set of mutually separated phenomena which they have known well from their own neighbourhoods. There are typical statements that illustrate the respondents' perception of environmental situation:

"... dust, the factories, smoke, the lack of trees,... the roads are dirty... the water — terrible situation. Some machines should be built so that it is possible to manage the wastes' flow."

"... air pollution, the trees and the nature are just before collapse... the smog from cars... The field is overfertilized, the soil is gray..."

"... Look at the neighbourhood. There are 53 chimneys behind the window... the bad smell, dust..."

As a result of relying on personal experience which have not been necessarily supported by the elementary concepts of the environmental science, the respondents have perceived solely the direct environmental damages of industrial production. They have not perceived indirect environmental effects connected with the coal exploitation and with the primary manufacturing of the natural resources used by the coal-mine. They have not perceived the "chain-landscape-consequences" of the extraction as well as the environmental feedback inherent to them.

The prevailing concern about the direct environmental effects of industrial activity has substantially influenced the respondents' assessment of the environmental impact of the coal-mine. There are the environmental impacts of the coal-mine quoted most frequently by the respondents both in 1988 and in 1990: 1. the dumping-places of deads (49,4⁰/₁₀₀ in 1988, 40,6⁰/₁₀₀ in 1990), 2. the air pollution (31,8⁰/₁₀₀ in 1988, 37,5⁰/₁₀₀ in 1990), 3. undermining of the landscape (18,8⁰/₁₀₀ in 1988, 15,6⁰/₁₀₀ in 1990), 4. polluted water from the coal-mine (15,3⁰/₁₀₀ in 1988, 6,3⁰/₁₀₀ in 1990), and 5. the dumping-places of flotation-daeds (11,8⁰/₁₀₀ in 1988, 15,6⁰/₁₀₀ in 1990). All these phenomena represent the direct environmental effects of coal-exploitation. In contrast, there was only one man (1,2⁰/₁₀₀ of the respondents) who stated as environmental impact of the coal-mine the over-consumption of natural resources in 1988. The impact on the landscape-relief and on the landscape-use, the phenomena which the coal-mine's employees have everyday experience with prevailed in the answers.

Of crucial importance was the second of the above mentioned environmental impacts, the air pollution. It is the most visible and the most communicated environmental damage in the Ostrava-Karviná District. Most of the respondents have used it as the deciding criterion of their environmental impact assessment:

"I think, the coal-mine does not influence the environment very much. There are only the dumping-places... there are no chimneys. It is pos-

sible to recultivate the dumping-place, there are the trees and the grass on it. . ."

"Not very much. There is no air pollution. . ."

There has been an absence of environmental interrelations as the criterion of environmental impact assessment:

"There was the swamp. The coal-mine is located on a good place."

This statement illustrates that the respondents have no concept about the environmental function of the marsh or other natural elements.

The ignorance of indirect environmental consequence, the overestimation of air pollution as well as the underestimation of landscape elements which are not utilized by man have led to a general underestimation of the coal-mine's environmental impact: 1. Despite the fact that most of the respondents feel that the environmental situation is alarming (see above) only a relatively small part of them (30,2% in 1988, 34,4% in 1990) state that there is a serious environmental impact of the coal-mine. 2. One third of respondents said both in 1988 and 1990: "The environmental impact of the coal-mine is not very important." Many of them stressed the marginal level of air pollution caused by the coal-mine. The others expressed doubts about the environmental relevance of the dumping-places. 3. The answer of another group of the respondents was similar: "The environmental impact of other industries is worse." (11,7% in 1988, 12,5% in 1990)). This opinion is based on the supposition that other industries (steel or chemical industry) cause more intensive air pollution than the coal-extraction-industry. That is probably true. But air pollution is not the only kind of environmental impact. 4. The statement: „I do not know what is the environmental impact of the coal-mine," (16,5% in 1988, 9,4% in 1990) is the sign of a high degree of indifference as it is in the case of the opinion: "There is no environmental impact of the coal-mine activity." (2,3% in 1988, 3,1% in 1990), etc.

The substantial part of environmental consequences of the coal-mine's activity has been hidden for the employees. Other environmental impact of the coal-mine have been underestimated by some people. There have been cognitive reasons for this fact. The inability to recognize the indirect and the "chain" environmental influence as well as the overestimation of some types of direct impacts have coincided with the need to avoid the one's personal responsibility for the current state of the environment. The environmental illiteracy has represented an alibi of environmental responsibility for many persons as well as for the whole coal-mine-community. As a result there has been an inconsistency between the alarm-assessment of the environmental situation and the favorable environmental impact assessment of the coal-mining working-community.

People who are not able to recognize the environmental consequences of their own activity cannot take the responsibility for them. Hence they cannot understand the principles which are embodied in the environmental law and environmentally oriented economic restrictions. The

most probable response of these people to the imposition of environmental-policy-measures could be dissatisfaction, the feelings of threat to personal interests and an attempt to ignore the intentions of legislative institutions.

The reduction of an environmental problem to the direct and visible consequences of industrial activity has influenced the respondents' opinion about the environmental-problem-solution, too. Look at the structure of statements concerning this question: 1. "I do not know... (what is the solution.);" (20,1⁰/₀ in 1988, 15,6⁰/₀ in 1990), 2. "To punish the perpetrators and to use the end-of-pipe technologies." (50,6⁰/₀ in 1988, 43,8⁰/₀ in 1990), 3. "To solve the problem of resources." (5,9⁰/₀ in 1988, 3,1⁰/₀ in 1990), 4. "To reduce the number of industrial factories." (10,7⁰/₀ in 1988, 12,5⁰/₀ in 1990), 5. „To respect the environment" and/or "to begin at home." (8,1⁰/₀ in 1988, 21,9⁰/₀ in 1990), etc.

There have been three basic types of opinion (except of the answer: "I do not know"): 1. The so called "postventive" approach which represents the opposite of the "preventive" approach. The postventive solution (see number 2) corresponds with an exclusive focus on the direct environmental impact. 2. The preventive approach which coincides with the assumption of indirect environmental impact (see number 3 and 4). 3. The ethically oriented approach which is rather preventive than postventive. The postventive approach has prevailed. The preventive approach (16,6⁰/₀ in 1988, 15,6⁰/₀ in 1990) has been expressed by a relatively numerous minority and the same applies to the ethically oriented approach. The comparative rise of the ethically oriented answers (see number 5) could be an interesting consequence of the social change which took place in Czechoslovakia between 1988 and 1990. But it could be an occasional fluctuation of opinion and it would not be responsible to speak about the implications without consulting other data.

„To continue the coal-extraction and change the coal-mine's environmental impact at the same time," is the primary aim of the environmental costs' internalization. To realize this aim means to use the technology which fits with the environment-friendly principles of thrift, recycling and landscape-protection. What is the attitude of the respondents towards these principles and what is the status of these principles within the culture of coal-mine-community? Are the rather preventive principles of thrift, recycling and landscape protection compatible with the prevailing postventive orientation mentioned above?

The discussion concerning the technology of coal-extraction took place in spring 1988. The suggestions of experts who took part in the discussion resulted in the following list of possible measures which could help to reduce the environmental impact of the coal-mine:

1. to save energy,
2. to save materials,
3. to extract the coal-seam perfectly,
4. to select coal by quality under the ground, during the extraction
5. to maximize the use of the deads,

6. to use the heat-energy-wastes which are produced by the compression of air, the thermal water and the thermal air which are drawn from the mine without use now,
7. to use the wood-wastes and the gas-wastes,
8. to return the deads to the excavated spaces,
9. to find the most harmless location for the dumping-places.

The measures number 1, 2, 3, and 4 represent the principle of thrift (to minimize the energy and materials input per unit of production). The measures number 5, 6 and 7 represent the principle of recycling (the use of wastes as resources). The measures number 8 and 9 represent the principle of landscape-protection (to keep the landscape functioning from the environmental point of view).

I offered this list step by step to the respondents and asked them two questions both in 1988 and 1990: "Do you see it as possible to take part in the realization of this measure?" "If you put no attention to this measure could it implies some danger to your personal interests?" The first question investigates the personal involvement of the respondent, the latter should ascertain the presence or absence of some external incentives which support the personal involvement within the coal-mine-community. The summarized results of the questioning are in the Tables number 1 and 2.

The respondents expressed their personal interest in the principle of thrift. They saw possibilities to save energy and materials. It is probably the effect of a deep-rooted cultural tradition that has been kept by the coal-mine' community-members as a result of two factors: 1. The continuous awareness of economic value of energy and materials. 2. The permanent problems with arranging continued supplies of materials in the shortage-economy. The problems with supplies have been perceived as an obstacle for plan fulfilment by the coal-mine-community.

Personal involvement in the perfect extraction of the coal-seam has grown between 1988 and 1990. There is no sufficient explanation of this change in the answers of the respondents.

The respondents expressed an indifference to the principle of coal-selection according to quality during the process of extraction. (The current method is to mix the coal with the deads, to draw the mixture from the mine, and to select coal by means of special technical facility. This process is relatively fast but takes huge amounts of energy.) The main reason probably lies in the current technical equipment of the coal-mine which is well adapted to the current technology and makes realization of an alternative selection-technology extremely difficult. There were respondents who remembered the old days in which the underground-selection of coal by quality was an everyday phenomenon depending on a different technical equipment of the coal-mine.

Despite of the relatively high degree of personal involvement in the pursuit of thrift the respondents have not been aware of the environmental relevance of this principle because they have not reflected its indirect environmental connections.

Table 1. Personal interest to take part in the realization of environment-friendly measures (N = 85 in 1988, 32 in 1990, the data are stated in %)

the measure	rather indifferent		rather interested in	
	1988	1990	1988	1990
THRIFT				
energy-saving	28,2	37,6	71,8	62,4
materials-saving	35,3	18,8	64,7	81,2
coal-seam-extraction	78,3	46,9	21,2	53,1
selection by quality	83,5	84,3	16,5	15,7
RECYCLING				
deads-use	91,7	87,5	8,3	12,5
heat-wastes-use	84,7	87,5	15,3	12,5
wood/gas-wastes-use	77,6	75,0	22,4	25,0
LANDSCAPE PROTECTION				
deads-return	78,8	71,8	21,2	28,2
dumping-places-location	70,6	46,6	29,4	53,4

Table 2. The external encouragement to take part in the realization of environment-friendly measures (N = 85 in 1988, 32 in 1990, the data are stated in %)

the measure	rather absence		rather presence	
	1988	1990	1988	1990
THRIFT				
energy-saving	72,9	81,2	27,1	18,8
materials-saving	56,5	75,0	43,5	25,0
coal-seam-extraction	92,9	75,0	7,1	25,0
selection by quality	100,0	96,9	0,0	3,1
RECYCLING				
deads-use	97,6	93,7	2,4	0,0
heat-wastes-use	100,0	100,0	0,0	0,0
wood/gas-wastes-use	96,5	96,9	3,5	3,1
LANDSCAPE PROTECTION				
deads-return	95,3	96,9	4,7	3,1
dumping-places-location	100,0	100,0	0,0	0,0

Regardless of whether the respondents were indifferent or interested in the thrift supporting measures, most of them did not speak about the external stimuli by the thrift-aimed behaviour. The absence of these incentives within the coal-mine-community has corresponded with the strategy of "avoiding the plan fulfilment obstacles". Thrift has been "something that could retard the work".

Both the personal indifference and the absence of external stimuli has prevailed in the case of recycling. There were a similar indifference as well as an absence of external incentives concerning landscape protection in 1988.

But coal-mine's employees went through a change of attitudes towards the harmless location of dumping-places between 1988 and 1990. There has emerged some respect towards the landscape-protection which has

corresponded with the relatively high attention devoted to the landscape-destruction by the respondents (see above). But there have been different conditions of realization of different landscape-protection measures. The technical structure of the coal-mine has prevented the return of deads to the exploited coal-seams. Hence many respondents had doubts about this measure and were indifferent to it. This was not the case of harmless location of dumping-places. There appeared to be many circumstances which have stimulated the positive attitude towards it: 1. The respondents could imagine their own response to the location of dumping-place into their own neighbourhoods. 2. The location of dumping-places was found to be an easy solution to some visible and direct environmental impact by the respondents. 3. The location of dumping-places should be the task of other people responsible for it. Hence this task would have no influence on the everyday work of the respondents and it would not retard the plan fulfilment.

We can summarize the influence of externalization on the environmental responsibility of the coal-mine's employees by the following remarks: The coal-mine's employees could not understand the whole range of environmental effects of their work. Hence they have felt not to be causing the alarming environmental situation and they have not been interested in the environment-friendly technological change. They would perceive it as an obstacle to their own collective as well as individual goals' achievement. As a result, the environment-friendly principles have not been incorporated into the organizational culture of the coal-mine until these days. Only a few organizational rules have articulated the principle of the thrift, no rule have articulated the need for the recycling and the landscape-protection. The community-members who have been well-identified with the sole goal of the plan fulfilment, would be probably resistant against the claims of New Interventionism. As a result of the current technical framework of the coal-mine they would be able to resist the organizational as well as technological changes fitting in the claims of New Interventionism. There is the question if there is a sufficiently influential group within the coal-mine-community today which could start the organizational and technological changes necessary for the practical implementation of the goal of the state environmental policy.

THE EXTERNALIZATION HYPOTHESIS

The picture of the values, goals, and organizational rules of the coal-extraction-industry permits me to formulate the hypothesis of externalization as one of the important features of industrial organization.

There is a cluster of organizational principles which can be labeled as "industrial organization". The following characteristics are usually perceived as the elements of the cluster:

- the split between the decision-making on the one hand and the working-performance on the other hand,
- the strong functional specialization,
- the stress of the economic motivation as well as stimulation,
- the standardization of technology, of products, and of the behaviour of the employees,
- the preference for communication of rather exact and quantitative information,
- etc.

The consideration about the above described picture of the Czechoslovak coal-extraction-industry stimulates the supposition that the principle of externalization is an inherent element of the organizational-principles-set which we call "industrial organization". The main features of the externalization are:

- the strictly single-goal-orientation,
- the effort to overlook or to connive at the values and effects connected with the achievement of the intended production goal,
- the division of tasks between the superiors and the subordinates where the superior institution is obliged to ensure the externalization of all the tasks or duties which could prevent the achievement of the single goal; and the subordinate institution's duty is to perform the positive steps necessary to achieve the goal,
- the cognitive illiteracy and/or resistance against the conceptual frameworks which could point out the responsibility of community-members for the economic, social or environmental consequences of their effort to achieve the intended production goal.

One could point out that the principle of externalization is the organizational background for the so called "unintended effects of social behaviour". If unintended effects are an inherent feature of social behaviour (see Keller, 1988) than the same should be the case of the externalization. There is not sufficient place to discuss this hypothesis in this text.

One could suppose that the hypothesis of externalization has relevance only in the context of the centrally directed economy. The similarity of Taylor's and Stakhanov's organizational model (regardless of their differences) mentioned above implies hypothesis, that the tendency towards externalization is probably an inherent characteristic of the industrial organization in general. As the presented case studies show, the centrally directed economy has applied the principle of externalization at the national-economy level and that is why it became more influential and more visible than in the market economy. The externalization applied at the national-economy level is not peculiar to the centrally directed economy. The unemployment policy which is usual in many market economies could serve as an example of the externalization of entrepreneurs' responsibility for the labour-market-situation.

One could ask the question: Why develop new features of the industrial organization's model when the science as well as management have been changing it substantially for more than fifty years? This question points out the process of transition between the industrial and so called "post-industrial" organization. According to my point of view it is necessary to understand the industrial organization so that we can understand the current transition from the industrial to the "post-industrial" society. The transfer between (economical, legal or ethical) externalization and internalization could become one of the crucial tendencies of future social evolution. The transition from the society which consists of single-goal-oriented communities towards the society which consists of multi-goal-oriented communities that would internalize the responsibility for wider range of their own effects could be one of the substantial trends of current or future social organization.

Moreover, this transition has much to do with the question of survival.

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