Nature Mastered by Man: Ideology and Water in the Soviet Union

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SUMMARY

The former Soviet Union suffers from environmental degradation of huge areas and the plundering and misuse of natural resources. Its unfavourable natural geological and climatic preconditions are not the only cause for the frequent environmental catastrophes. Neither can the Marxist ideology nor the lack of competent administrative and technological personnel be solely blamed. Yet the vision of a new kind of society without private ownership, and thus profit interests, of natural resources had promised a utopia of man and nature in harmony. What went wrong? I focus on the complexities of reasons and highlight the intertwining and interdependence of economic, historical, political, ideological, and aesthetic aspects.

It was often quoted with pride in the USSR that socialism was victorious in the world's largest country, covering one sixth of the earth's land. Songs and poems praised the huge woods, the pristine lakes and the majestic rivers. The country was extremely rich with stores of fossil fuels, minerals, various common and rare ores. It was a natural paradise for a people whose workers and farmers were in power, where personal property of land and natural resources and thus individual interests had been abandoned. People were free at last; now they could realise the utopia of communism, create the perfect society, solve all the social and scientific problems that all the other class societies had not been able to solve before. A true turning point in history! Also, the end of history was in sight. Like the good old American mentality of the pioneers 'goin' West' – the treasures of the land just waited for smart minds and busy hands, and the horizon and the wealth would never end.

Well, the songs were right, but, like all the jokes about radio station Yerevan, just 'in principle'. There were some serious disadvantages in this natural

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paradise. The most water, timber and minerals are in undeveloped areas of the country: 'Three-quarters of the region's population and 70% of its industry enjoy ready access to only 16% of total available water resources.' (Peterson 1993: 55). Compared to the US, the Soviet Union has a much more northern latitude, and this giant land mass has a severe continental climate. About one third – or 7 to 8 million square kilometres – lies in the zone of permafrost, of permanent ice and snow. To develop there, to get access to the resources, is difficult and costly. And nature is much more vulnerable there. But the remaining two thirds is still big enough to take out big chunks for mining and dumps, to dig water reservoirs, to turn woods into barren forests and swamps, to turn fields into eroded and salinated land. The Russian environmentalist Ze'ev Wol'fson found out in 1978 that about one and a half million square kilometres – 'the most suitable for use, and, in many cases, the most fertile' land – had been turned into 'sterile land, industrial wasteland or semiwasteland' (Komarov 1980: 130f.). Since then environmental degradation of huge areas, the plundering and misusing of natural resources has not stopped. If we look at a map of the former USSR with all the marks of environmental catastrophes we see a sick giant bleeding out of numerous wounds.

Latitude and climate are objective reasons for disparities in the water distribution in the Soviet Union. Three fourths of the water resources are in Siberia and the Far East – where just one fourth of the population live and one fourth of the industry are situated. And the big Siberian rivers flow northward, away from dry, but potentially fertile land in Central Asia. Major bodies of water are heavily polluted, including the rivers Volga and the Don in Europe (both rivers inherit a concentration of bacteria and viruses hundreds of times over the hygienic standard) and the Caspian Sea. The most well-known examples of environmental degradation are the Aral Sea and Lake Baikal.

The Aral Sea between Uzbekistan and Kazakhstan was cut off from its sole surface inflow sources, the rivers Amu-darja and Syr-Darja, whose waters were needed to develop an entirely new, monocultural and disastrous agricultural project of cotton production. From 1960 to 1991 the Sea lost more than one half of its size, 33,000 square kilometres – the size of Massachusets and Connecticut – and 73 % of its volume. The climate changed, around 43 million tons of dust and salt are blown by storms annually; the salts are toxic to plants and make the people sick. Because of the increasing salt concentration in the sea the fishing industry was destroyed. Since then the shrinkage could be stopped, but a realistic chance to recover the Sea is not in sight for a long time.

Lake Baikal is not only precious to people in the Soviet Union. There is an international non-profit organisation within the Earth Island Institute (Baikal-Watch) which includes scientists, ecologists and other people who are concerned about nature, which fights for the wellbeing of the earth's biggest fresh water resource. As early as 1965 people in the Soviet Union expressed their concern that this source might be irreparably damaged.

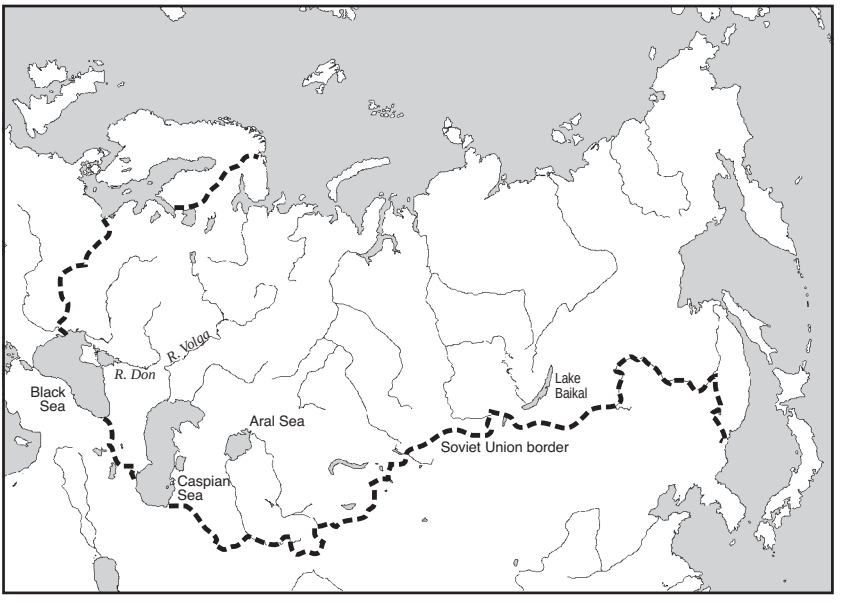

FIGURE. 1 The Former Soviet Union, Showing Principal Rivers

And Lake Baikal deserves this worldwide attention. Located in Eastern Siberia near the border with Mongolia, – 23,000 square kilometres big (about New Hampshire's size) and 1,620 metres deep, it supports 600 to 800 species of plants and over 1200 to 1550 types of animal life, of which three quarters are found nowhere else in the world. Lake Baikal has existed for 25 to 30 million years (the Great Lakes are 'only' several thousand years old). The Pulp-and-Paper and Wood-Processing Industry – more than 100 enterprises – around or near Lake Baikal were destroying the fragile biological balance of the lake. Extensive logging (500 square kilometres a year) fostered erosion and abolished the 'air filter' of the lake. Nobody knows how serious the damage already is; the fight for the lake is not only a fight against the industry and the bureaucracy that won't back up, it is also a fight against lack of knowledge and lack of money.

Russia is rich in fresh water resources and is only surpassed by Canada and Brazil. However, Feshbach and Friendly (1993: 113f.) write that in 1989 nearly three quarters of the surface water in the USSR was classified as polluted and that one third was not treated at all. Every year about 23 cubic kilometres of untreated sewage are discharged, most of it dangerous to humans and the environment. One result is that only half of the drinking water – 30 million cubic metres daily – fulfils the health norms. Every year two million people suffer from parasitic illnesses, including diseases of the central nervous system, kidney and liver infections and birth complications. There is the danger of cholera (Don) and

diphtheria epidemics. Three quarters of Russia's rivers and lakes and 30% of underground water are not suitable as drinking water.

Another major source of water pollution and waste in the USSR is agriculture. The continental climate in summer and autumn is dry and hot, and winters are severely cold, which practically interrupts the water circulation. Spring and early summer bring flooding from heavy rainfall and meltwater. 'To overcome these challenges of nature, engineers dammed, diked, drained, and diverted water resources in an effort to work the Soviet Union into a single hydrographic network.' (Peterson 1993: 55). An expanded irrigation system was developed that helped to produce almost one third of the agricultural products in the late 1980s. But more than half of the channels are unlined and much more are uncovered, so 40-60% of the water is lost. The lost water turned a quarter of a million square kilometres into unplanned swamps – an area the size of Oregon. Sprinkler systems were only used on 40% of the irrigated land; so in Central Asia only 20-30% of the withdrawn water reaches the fields.

The Soviet Union established a network of hydroelectric power stations to produce energy for the ambitious industrialisation program, especially after World War II. The longest river in Europe – the Volga – was practically brought to a standstill by 34 stations of the 'Great Volga' scheme. Dams in Europe and on the Siberian rivers claimed 62,000 square kilometres of land – which is the size of West Virginia. Dam construction was often hastily done without adequate preparation, which caused millions of cubic metres of wood debris and, as a result, phenol concentration many times the norms. Damming and lack of fish ladders harm the natural cycle of the native fish, and reduce their number. The environmental costs are enormous. Philip Pryde (Pryde 1972: 116) describes how, for the Kuybyshev reservoir at the river Volga, 300 towns and villages had to be relocated, in all about 150,000 people. For this dam at Kuybyshev protective works around eleven other cities were required, including dykes, drainage canals, and pumping stations.

By now the enormous and urgent problems are known. In 1990 Soviet environmentalists conceptualised a 15-year plan for the protection of air, water and land. But the amount budgeted annually is only about 5% of the money the US spends for just water protection alone. So, although water quality and water conservation have achieved high environmental priorities since the mid-seventies, there are certainly limits. The production capacities cannot keep pace with the increase of water consumption, and are mostly very simple and mechanical. That means that most of the used water passes untreated. Often the planned facilities could not be realised because essential materials were not available, or because of lack of hard currency, which would have been necessary to acquire the appropriate equipment. Even if advanced foreign technology could be bought, maintenance is difficult – either new parts or the skilled personnel are not around. Often the new capacities are installed but don't work. Domestic technology often lacks quality and is worn out very soon. Thoughtful international cooperation is necessary – locally and nationally.

How could it happen that a country which started with a vision to build an alternative society of human fulfilment and wellbeing and social harmony, would cease to exist without glory after heavily contributing to the destruction of our planet? You can call the communist countries the 'Empire of the Evil', but you won't find anywhere in the thoughts of the founders and their epigonic leaders of the world proletariat that they intended to abolish the woods, to poison the seas, rivers and lakes, to sterilise the land and to fill the air of their own peoples with toxins.

Traditionally, there is a strong and rich treasure of local and regional customs closely and fondly connected with nature. The violent industrialisation in the 1930s urbanised Russia and the other Soviet territories, breaking that connection. There are kind of 'objective' excuses for the USSR's environmental disasters, relating to the geographical peculiarities of the former USSR and combined with the historical preconditions for the Bolshevist environmental politics. The initial structures for the problem-solving decisions were not working effectively. The effects of such environmental politics on the rivers, lakes and shores during more than 70 years of socialism are stunning. What really happened in those 70 years? What were the determining factors? How was it ever possible to screw up so thoroughly? Not surprisingly, the answer cannot be given with one name or word like 'Stalinism'. In searching for an adequate multicausal 'explanation,' I found five complexes of reasons which together, overlapping and interwoven, lead to the degradation and destruction of nature.

1. THE ECONOMIC

It had been at least theoretically possible to go a different way in 1917. Imagine the picture of the famous Russian warrior Ilya Muromets standing at the turning point. Instead of the fatal 'utilitarian' could/would he have taken the way of the 'scientific' approach of respecting, watching, analysing and learning from nature, accumulating knowledge and transforming the lives of the people in accordance and harmony with their environment? The famous Russian botanist V.I. Taliev said in 1917, shortly after the so-called bourgeois February Revolution and before the Bolshevist October Revolution, foreseeing a gloomy future: 'With the furious raging of the agrarian problem out of control, the idea of conservation might well seem superfluous sentimentalism.' (Quoted in Weiner 1988: 20). That meant that after centuries of serfdom, landlessness and extreme poverty, the peasants needed land; the country needed food. Basically the small- and mid-sized farm-holders worked with the same methods their ancestors had for centuries. Often they had to pull the wooden plough themselves. Scientific methods of cultivating, growing, changing crops, fertilising, harvesting and storing were unknown to them. The Bolsheviks not only promised the peoples in Russia paradise in their utopia, they genuinely wanted to help and make their lives better – immediately and decisively.

So replace the 'agrarian problem' with 'the problem of industrial development' and you have a second urgent reason why 'conservation' did not get so much attention from the start. The material problems after World War I, during and after the Civil War, during the time between the wars, when the Soviet Union was politically isolated, during and after the Great War, are easy to recognise: The urgency of providing a means of survival, of fighting off the enemies, to prosper somehow, so that courage, hope and belief wouldn't fail, was obvious. A rapid and even violent industrialisation seemed to be the only way to succeed in these aims. That also meant collectivisation, or the industrialisation of the agriculture: the transformation of landowners, owners of the means of production, into state employees, alienated from their own soil.

A broad industrial infrastructure, which had grown over decades, if not centuries, in Western Europe and the US, did not exist in Russia. The emphasis on electrification by using the accessible resources of coal and oil and the emphasis on developing heavy industry brought disproportions in the national economy and thus the infamous bottlenecks in the distribution of consumer goods. Industrial production, construction and even agriculture were put on a tight time schedule. The organisation of the national economy into Five-Year Plans brought strict deadlines. One consequence of those deadlines was that the last phase was very often completed in a reckless speed. Thinking in plan numbers fostered a responsibility in numbers only; the quality of the products was often of secondary importance. The Soviet citizens were faced daily with sloppily made consumer goods, almost always inferior to imported equivalents, which did not increase the 'pride of the working class'.

This model of economic development in the famous Five-Year Plans of the Stalin era stressed exclusively extensive growth 'quantitative increases in factor inputs' rather than intensive growth 'qualitative increases in factor productivity' (Kramer/DeBardeleben 1991: 59f.). This is also true on the big scale: 'Rather than improving the quality of life, the 'growth at any costs' attitude of Soviet planners impoverished the population, wasted natural resources, and polluted the environment.' (Ziegler 1987: XII). Natural resources were not included in the price system. Not owned privately, they had no 'value' in Marx's sense of the word as a function of labour and social exchange, neither exchange value (commodities embodying labour time and produced for social exchange) nor use value (embodying no human labour and involving no form of social transfer) (Marx, Capital vol.1: 47f.), they were 'free goods'. This encouraged the uneconomical use of resources, energy and material without regard for waste or loss. This mode of production put common sense on its head. The production cost of the products were much higher than in the capitalist economy, but nobody really measured exchange and use value, because the Soviet economy was self-referred and incompatible; the price fixed by the government bureaucracy was unrelated to any normally valid economic category and completely arbitrary. 'Projects often were praised more for their daring and scale than for their

practicality or effectiveness. Ultimately, ecological concerns were eclipsed by planners' and engineers' ambitions.' (Peterson 1993: 61).

Looking down to the historical roots of all this, we can put part of the blame on the Tsarist regime, but we can also find parallels in power-securing strategies with the Bolshevist government. The Romanov dynasty had pushed industrialisation, but at the same time hit the brakes on the interconnected modernisation of political and social structures necessary to maintain its authority. One of the major Marxist theses stated that history was predictable, because it followed objective laws that man could discover. The Soviet Communist Party concluded that it was legitimised and historically authorised to form the future after its own image. The result was the most radical overthrow of the social structure in humankind's existence: whole social groups and strata were wiped out; new replacement groups and strata created. Although the structures were completely toppled and mixed anew, the old quasi-feudal Tsarist spirit of strong hierarchic potence and competence of power and decision-making, the violence and the dependency of the people on an indisputable and untouchable god-like elite, was strategically taken over and perfected.

At the beginning of the new era Russia not only lacked the European urban culture, i.e. autonomous city institutions, prospering urban trade, an urbane intellectual culture, and 'a religious-ideological affirmation of the virtues of trade' (Luke 1985: 29), it also lacked a commercial and industrial bourgeoisie as a social influential force that could break with feudalism. (Cf. also Luke 1985: 49: 'heavy dependence on state incentives, small mass markets in the few major Russian cities, commercial competition from the service nobility and the culturally backward population'.) The modernisation of Russia was pushed by 'feudal elements', the Tsar and his bureaucracy. Besides its structural and developmental disadvantages, when compared to Western Europe, there were also no democratic traditions, no pluralism, no free market. The industrialisation was similar to 'Elizabethan' patronage – centralised and hierarchised.

The Bolsheviks took over the Romanov dynasty's administrative model of modernisation. But after the inevitable elimination of the Tsarist state apparatus, new social groups had to be found, installed and implemented to continue and strengthen industrialisation. Because they formed the most advanced social movement in Russia, the Russian intelligentsia emerged not only as a culturally very distinct and progressive force, but also the only one to take the lead in the modernisation before and after 1917. They were needed as administrators, managers and as a moral affirmative institution. Lenin would rely without ideological scruples on the old Tsarist stratum of specialist intellectuals in law, medicine, engineering, education, science and economy, because their origin was neither aristocratic nor bourgeois (*Besitzbuergertum*) but they came 'From-various-ranks'/'*Raznochintsy*' (*Bildungsbuergertum*) so they had no group or personal interests or power (cf. Luke 1985: 57). This new intellectual elite was well aware of its privileged status. The resulting feeling of guilt and social

responsibility made the intellectuals understand their privilege as a mission for historical change, their duty as a sacrifice for the people. Their almost priest-like understanding of discipline resembles a religious calling.

The working class was quantitatively small, but even smaller was a core of class-conscious and skilled who were in the technologically advanced factories of the urban areas. The working class was not yet hereditary, and had no traditions, nor hardly any experience with representative organisations like unions or political parties. Most workers were uprooted peasants who had fled the misery of their rural lives. The industrial revolution in Russia started more than a century later than in England, where Marx had analysed the capitalist economy and made his economic and social predictions. The former peasants lacked professional skills, and Tsarist authority worked very carefully to preserve the lord-serf relationship that had characterised the rural structures, and to keep the new social class in obedience, dependency and ignorance. This was supported by the mode of production in agriculture: the producer worked in isolation. As workers of the first generation they stayed individualised, unorganised, 'unconscious'.

The Communist Party understood that the development of technology alone would not guarantee the success of industrialisation. The Bolsheviks were not so much willing to change the hierarchic structures of government, as the values and working ethics of the working people. Mass production demanded education, cooperation and motivation. The cultural revolution was as essential as the political and the economic/industrial:

> A complex structure of incentives and sanctions was constructed by the external authorities of the state, party and industrial enterprise to bribe, force and persuade individuals to internalise new attitudes, values and needs psychologically as an internal authority structure to regulate their everyday conduct. (Luke 1985: 15f.)

The results of mass internalisation were certainly remarkable; the persuasiveness of utopian ideas and simple Party propaganda turned the individual into a demigod who could control and determine the future in the mind; but in reality into the affirmative wilful and changeable particles of a working army. The 'real existing socialism' proved again that the mass internalisation of repressive ideologies is not necessarily realised through violence, and that the repressive ideology is not necessarily resisted, but developed and transformed by the repressed themselves.

But internalisation and persuasion can be trusted only partly for this huge task of cultural revolution. There were strata in the social structure which would neither fit into the collectivisation of production in agriculture and industry nor with the de-individualisation of the citizen. Stalin's strategic command of the late 1920s, that the internal class struggle intensified with the society's advance toward socialism, reflected not so much the increasing tensions in international politics as his and his Party supporters' efforts to get rid of nonconformist forces.

During the collectivisation between 1928 and 1934 the class of the Kulaks – landowners whose overproduction basically fed the urban centres – was physically eliminated; and the Shakhty affair in 1928 gave the signal for the fall from power of the technical intelligentsia. Those campaigns were consequential and homogenised Soviet class society; but their consequences were long-term and disastrous: with those two social groups the young Soviet state lost the specialists whose competence was irreplaceable. Soviet agriculture never overcame this hard blow. The construction of socialism was identical with industrialisation. Agriculture had the sole and simple function of providing the food. Herbert Marcuse writes: 'While the humanist values attached to the end of the road became ritualised into ideology, the values attached to the means, i.e., the values of total industrialisation, became the really governing values.' (Quoted in Luke 1985: 238).

Stalin returned to the means of the Civil War, an even more violent class war of life or death which legitimised the polarisation into revolutionary-proletarian and counter-revolutionary-bourgeois elements. In a very short time a new and young 'proletarian' intelligentsia was created. The enthusiasm of those bright young people was certainly overwhelming, but their education was often not finished, or it was influenced by pseudo-scientific concepts and methods; they also lacked the experienced conscientiousness and expertise of the 'bourgeois' specialists. Their concrete and strategic decisions for the modernisation of industry and agriculture were not consciously wrong, but they were often wrong nevertheless. This post-revolutionary generation took over the Party and the State apparatus. The specialists in agriculture were never replaced. Agricultural research suffered from Lysenko's unscientific methods, which caused theoretical delay and practical damages.

From 1928 until the First Five-Year Plan the Soviet industry tried to restore the technological level of the final Tsarist years; World War I and the Civil War had created deep wounds. The progress in education and training of the new work force was much too slow. Actually, the level of skills and literacy of the working class, traditionally composed of former peasants, and thus exhibiting their weaknesses – not being used to discipline and strict daily regime, no knowledge of machinery, low educational standard, small proprietor mentality – was still low and discouraging. With the first plan Stalin determined the way for Soviet Russia's modernisation: he chose more capital- and technology-intensive forms of production to balance the lack of skilled workers. The concentration of production in huge companies made it easier to control and manage un- and semi-skilled workers and economise the production process.

After Stalin's death even harsh critics gave him credit for the preference of industry over agriculture, of heavy industry over the light industry of consumer goods, of rapid planned growth over slow and organic growth. Otherwise the Soviet Union would not have defeated the Nazi German aggressors in the four hard years of the Great Fatherland War. No speculation is helpful what develop-

ment would have taken place if the Soviet Union had instead chosen the 'Chinese' or the 'Yugoslavian' way (Cf. Luke 1985: 237).

The First Five-Year Plan also reflected the end of the 'New' Soviet proletariat. The original ethos to educate and create a 'cosmopolitan, socially conscious, humanistic, intelligent' (Luke 1985: 214) was given up. That was not only an ideal which was impossible to rush or plan in predicted time periods, this new socialist proletarian would have been an open, pluralistically oriented, critical citizen, who, organised socially and professionally, would have collectively resisted the Party's coercive apparatus and its repressive means.

Stalin also understood that with a numerically small and inexperienced intelligentsia the ambitious goals of industrialisation could not be realised. The egalitarian and de-individualised treatment of the still semi-peasant work-force was not adequate to encourage outstanding results in production. Ideological and cultural transformation was too slow and not satisfactory. But enthusiasm and practical results could be achieved with the massive propagation of 'shock work' (intensive working periods where well prepared teams were able to produce much more than the average) and *Stakhanovtsy* (Aleksei Stakhanov gave this term his name; he was a coal miner in the Donbass; in August 1935 he cut in one shift 14 times the usual norm). Shock workers were paid much better and received attractive benefits. It paid to work hard, not so much because of the communist motivation but of healthy self-interest. This way Stalin and the Party created a new social group of a young and apolitical working class aristocracy, whose motivation was definitely not ideologically based. Shock work was popular and multiplied. It gave a strong boost to industrialisation and realised important industrial projects. However, the *Stakhanovtsy* were hardly comparable to the highly skilled labour aristocracy in the developed capitalist countries, where technology, management and the organisation of the production process were much more advanced and scientifically sophisticated. Shock work was physically very demanding and exhausting labour. The older generation whose work had brought the young Soviet Union through the tough times, and who were waiting for idealistic and material rewards could not do 'that mixture of progressive rationalisation and old-time sweated labour, [which] has to be accepted as the peculiarly Soviet style of labour' (Isaac Deutscher, quoted in Luke 1985: 205).

The cultural revolution had not brought radical changes in education, motivation and skill of the working class. The historical mission of the intellectuals to enlighten and lead patiently became obsolete. Stalin and his followers used more and more the red terror, repressive forms of dictatorship to enforce ideal discipline and class consciousness. The vanguardism of the old intelligentsia was an obstacle, a danger and a source for pluralistic and alternative thinking, which is a subversive form of resistance. They were deposed or physically eliminated. A new intelligentsia – Stalin's young guard – was educated and installed, and a labour aristocracy came into life which was able to work and succeed at the key projects of the construction of socialism.

The elimination of the humanistically educated, competent and experienced intelligentsia with a conscious work ethic; the creation of an unsophisticated and self-interested semi-skilled labour aristocracy; the quantitatively oriented, extensive, number-fetishist, material and resource extensive economy, were all factors which led to the neglect of the environment and ecology on economic principles.

2. THE HISTORICAL

Because of the low population density in this huge territory, the people – mostly peasants – lived very isolated. Nature is overwhelming in size and beauty, and seemed violent, almighty and unpredictable. People worshipped and feared nature. Orthodox Christianity was introduced in the 9th century and came from Byzanz. Old indigenous animist beliefs and Orthodox Christianity merged into a passive, mystical and superstitious world-view. Rivers, forests, mountains and other natural phenomena had their own spirits whose favour the dwellers sought. Orthodoxy does not encourage people to master nature and supports a rather fatalistic attitude. In the early 17th century Tsar Peter the Great started to modernise the Russian Empire, but he had to invite Western advisers and import Western ideas to do so. The question of modernisation and opening towards Europe was fought over but mattered only in court circles. Only in the early 19th century did an independent Russian scientific and artistic intelligentsia develop. Since then the conflict between the 'isolationist' Slavophiles and the 'Westerners' has been a permanent intellectual and political power game.

Slavophiles idolised rural life and the innocent peasant, and the more utilitarian Westerners looked up to the Western European model and rejected Russia's economic backwardness, its mystical religiosity and autocratic monarchy. They worshipped the scientist and the engineer (see Goncharov's *Oblomov*). They did not have much sympathy for the ecocentric pastorale of the Slavophiles; their technocentric and utilitarian approach towards nature was more like the Protestant ethics which legitimised man to transform the environment according to man's needs. The Russian intellectuals came from rural heritage – diverse representatives like Lev' Tolstoi, the writer, and the *Narodovol'tsy*, anarchist revolutionaries – and never cut their roots (see Turgenev's *Fathers and Sons*). Russian Marxism and the Bolsheviks followed the Protestant and Westerners' road when they came to power, but with a nature concept that has no origins in Russia itself.

The October Revolution in 1917 was a turning point in national history, equal to the Reformation or the French Revolution in Western Europe, and even topping and concluding them as turning points in World history. The 'civil religion' of Marxism connected elements of 'traditional' religions with secular ideology and even had practical and political implications – 'complex systems of action-motivating, norm-setting, practice-guiding and reality-defining pre-

cepts' (Luke 1985: 8). The years from 1905 to 1939 in Luke's description are 'the Soviet Union's "historical substitute" or its "functional equivalent" of the Protestant Reformation in Western Europe'. Marxism established myths and a system of beliefs and faith, it propagated an ultimate end to human strivings and developed its 'own unique secular ritual, demonology, liturgy and eschatology' (Luke 1985: 4f.). It gave meaning to life and communal coherence, created the individuals as subjects in history, provided structure and apprehensive ethics and a moral goal. Instead of a supernatural being, a supernatural institution – the Party – became the messiah, ultimately responsible for wellbeing and imminent progress, because, like God, the Party was always right. The Party was personified by an iconised leader; the rank-and file did not represent the party. The Party of the working class was identifiable with the bureaucratic elite – the nomenclatura.

The Party was also the mediator between environment and society. The Party's claim of infallibility made impossible the correction or confession of mistakes or failures. The party's economic decisions could never be wrong and the impacts on nature could never be dangerous. Man and his ultimate vanguard organ – the Party – were the new Gods and were legitimised to view nature technocentrically 'as little more than a toy of the engineering profession (or worse, as a malevolent obstacle to be thoroughly defeated)' (Pryde/Singleton 1987: 55). This also is not new and has a long history through Christianity and enlightenment. The Cartesian doctrine puts humans as central beings. Descartes interpreted Genesis 1:28, 'And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it; and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth', as an authorisation by God for human exploitation of animals and human governance over nature without any limits. The right to govern plants was even easier to prove. The Party claimed that with the mastery of technology every problem could be located and solved. Economic development would get rid of the dark forces in the history of Russia – the old overcome regime, rural primitiveness, nature's spontaneity. The Party claimed to get rid of century-old nightmares, dangers and disasters.

This argumentation pretty much looks like 19th century Positivism (science blown up into a religion) and is further evidence for the thesis that Marxism is another element in the long chain of Lyotard's master narratives in the enlightenment tradition. The argumentation also reflects the awareness of the Bolsheviks of the urgent necessities: to face hostile neighbours and possible aggression, and to counter the unpreparedness for this fight in the first two decades of the Soviet state. Nature was just another domestic enemy – apart from the remnants of the old regime – that had to be conquered and defeated.

This belief in science follows the tradition of the scientific intelligentsia under the Tsar. Scientific thinking and research were 'key to all knowledge including moral and political' and thus 'the antidote capable of counteracting the mystifying ideology of "Tsar, Nation, Orthodoxy"' (Weiner 1988: IX).

The historical preconditions for the development of a responsible environmentalist movement in the USSR were not good: there was a low standard of conservation in Tsarist Russia when the Bolsheviks came to power, and there was no worldwide consensus about a theory about causes of environmental degradation and methods to fight against them.

Weiner (1988: 10ff.) mentions three different approaches to nature at the beginning of the Bolshevik reign.

The 'aesthetic-ethical' approach viewed nature in the sense of a model of life that should be a guide and an example for human action. Nature should be respected and left alone, 'historical preservation' should be tried to restore degraded land. This approach, influenced by the idealistic German *Landschaftspflege*, propagated values like love for the homeland and patriotism that the Communist Party could agree with.

The 'scientific' approach was much more active and continued Russia's scientific traditions in agriculture. Here, too, nature was a model humans could learn from and make use of. The careful study of nature would help to increase efficiency and productivity of cultivated land. Many well-known and responsible scientists were involved and engaged in this long-term project, started in the *zapovedniki*, protected areas for research.

Exactly those *zapovedniki* were later taken over by representatives of the 'utilitarian' approach who changed them into zones for more or less arbitrary experiments of doubtful scientific character (acclimatisation, hybridisation). Science was subordinated to a simplified and dogmatised interpretation of Marxism. The view of nature as a limitless self-service department store made for man's use and waste is not the invention of the Russian Marxists; it goes back at least two thousand years. But new was the thoroughness with which this war against nature was lead. Every map of the Soviet Union marking the Five-Year Plan projects looked like a general staff map in a bi-continental war. Every project was a plan for a glorious battle against a strong enemy. Proponents of the 'aesthetic' approach could be heard and read for about ten years after the October Revolution; the 'scientific' ecologists lost their influence and positions after 1933. For more than twenty years the utilitarians dominated the field unilaterally, before the power tactics of Stalin's successor Khrushchev allowed public discussions in the media. But under him and also under Brezhnev the scientists' influence was limited and the decisions were not made by them.

Whereas scientific knowledge was welcomed as 'a handmaiden of technology' the party was understandably 'eschewing broader social and political questions' by using science as an antidote against the new mystifying ideology of the civil religion of Marxism in a Stalinist version (Weiner 1988: 125). Marxism was called a 'scientific philosophy' that was almighty because it was true; on the other hand science had to make immediate practical sense and was put 'unscientifically' in a 'dialectical' straitjacket. Whatever did not fit into that frame was dismissed, silenced, suppressed as bourgeois academism. We see side

by side the rationalisation of the new Soviet human, and the irrational selection of scientific validities; euphoria for, and mistrust of the results of science and scientists.

The adoption of the Western concept, which viewed nature as man's servant and which proved man's superiority, gave the Bolshevist Party the civil-religious cloak and representation of omnipotence. Whatever the Party planned and decided about the environment was ideologically legitimised and thus right.

3. THE POLITICAL

The humiliating peace treaty of Brest-Litovsk in 1918; the civil war with the active intervention of American, British, French and Japanese troops; the German aggression in 1941; the economic, diplomatic, and ideological warfare that the first communist state had to endure – all only proved the legitimacy of the Soviet leaders' appeals to be on guard all the time, to rely on their own strength and to trust nobody: 'We are fifty to one hundred years behind the most advanced countries. We must close this gap in the span of ten years. Either we do that or they will sweep us away.' (Stalin in the 1930s, quoted in Weiner 1988: 168). Some historians in the former Soviet Union argued that Stalin deserved praise for his wise foresight making victory over the German Nazi regime possible, and claimed that the use of any means was legitimised in order to make the Soviet Union strong militarily to save the world.

The other propagandistic effect of the superiority of the Socialist society was that this incredible speed of industrialisation was not only necessary but that it was also possible. Communist ideologues could list some good reasons why not only social and economic problems but also environmental problems could be solved or solved better under socialist conditions. The 'incompatibility of private and social welfare under capitalism' (Ziegler 1987: 4) would not be a contradiction any more but the two tracks would be identical. What suited the majority would suit the individual. In effect, environmental problems would hardly develop, and existing ones would disappear. The planned economy, the centralisation of decision-making and control would collect and combine all ideas, all knowledge, and all necessary material to take care of any environmental danger efficiently. The global ecological conflicts were basically results of the capitalist mode of production, and the capitalist, pluralistic, decentralised system was certainly not able to solve them. The profit-oriented, mass-consuming society with its permanently increasing level of production and consumption could not but pollute and waste. Therefore, 'under socialism, the same scientific-technical revolution that poses unprecedented environmental dangers also provides new potential for solving the problems that confront socialist systems' (Ziegler 1987: 26). And without doubt, those problems would be solved. The 'scientific' philosophy of Marxism-Leninism approved and foretold the rightness of the way the Communist Party had to go and would go.

But the construction of the Socialist society was something new and unique. It was a gigantic social experiment with no precedence and no safe recipes. The experiment in a surrounding hostile capitalist world could only be successful if everybody contributed his or her share. A coercive State apparatus which barred alternative options in thinking and doing by severely punishing violations and nonconformism was one thing. People had to accept this rigid regime; they had to believe in the cause, this idea, this utopia.

Lenin understood this very well and emphasised the role of the Party as a priest-like caste – the vanguard of the proletariat. The Party claimed infallibility and their leader was iconicised. The creation of legends – very similar to the creation of saints – produced incredible results. (The 'Leniniana' – the whole treasure of reported anecdotes (miracles) around Lenin – would have needed certainly one hundred years; Lenin lived only 54.) The people believed in his supernatural wisdom, strength and visionary foresight. Logically, his body was embalmed like a relic and worshipped in a mausoleum-cathedral to keep the authenticity of the faith alive. The Party of Lenin could not be wrong and should be trusted in everything it did. The supernatural power of the first leader of the Soviet State was transmitted to his successors as well (like Jesus' to the Bishops of Rome). With the inevitable leadership cult on top of the pyramid structure of society the Party could legitimise its infallibility claim.

With the rise of 'symbolic identification' and participation in rituals like the leadership cult or the Great Fatherland War cult, the Marxist-Leninist ideology had ceased to provide the initial moral legitimation. Only selected populist and handy bits which functioned as commands or as a catechism were taken over. People satisfied their patriotic and nationalistic needs by identifying themselves with scientific, political, athletic and aesthetic achievements. 'Regime legitimacy rests on these manifestations of greatness, combined with continued improvements in the material standard of living.' (Ziegler 1987: 47). The de-ideologisation and de-idealisation of late socialist society is reflected in the development of the Eastern European countries after the fall of Communism. Many people easily adapted other ideologies to the established structures and lived comfortably.

Although the Soviet peoples suffered, they did so silently and patiently, and were even proud of their fate in a way: they were the vanguard country in the world, the most advanced Marxist country, the one millions of Communists and Socialists dreamed about and wanted to learn from. Many people thought that the permanent state of war and Cold War, the propaganda of confrontation, the over-careful security, would be over sometime; once the communist countries had achieved economic superiority, other countries would be convinced to restructure their society the same way. Once the Soviet Union was militarily strong enough to convince the USA to stop the nuclear arms race – which forced them to spend a considerable part of their national budget for arms production and killed the rest of their economy – then armies, police, and secret service would

not be needed any more. So many people supported this idea, this party, this politics. Later everything would be better.

The structure of environmental politics changed gradually, as did the balance between the 'party-industry alliance' on one side (the 'socially owned economic institutions' and the 'party and government leadership') and on the other side the environmentally motivated, educated and interested 'actors' (the 'environmental agencies', 'experts and expert organisations', and 'the public' [acting individually or collectively in legal or extra-legal environmental organisations]) (Jancar/DeBardeleben 1991). The greatest input into the economic and environmental decision-making process was by the economic institutions whose one major function it was to legitimise the Party leadership and maintain it in power. This, and their function to increase the wealth of the socialist society, did not foster environmental discussions. The leadership of the Communist Party and the installed government had to deal with the economic backwardness of Tsarist Russia and with the enormous losses the Soviet Union suffered in World War II. Ecological necessities did not achieve priority. Industry and the Party had the information monopoly, which was practically a censorship to limit and control the flow of environmental data to the other 'actors'.

The role of groups and their special interests were not viewed as helpful mobilisers of the public, nor as a pluralistic warning system. Their absence was explained positively – no powerful economic lobby or elite should be able to influence political decisions. However, experts and expert organisations always existed in the USSR and were consulted before decision making. The statement that 'experts play a role in policy making in direct proportion to a society's level of modernisation' (Jancar/ DeBardeleben 1991: 33) is also correct in Soviet history. Stalin's successors had to take the special knowledge of experts more and more into consideration. But the projects of socialist industrialisation intended to change nature without precedent and to such an extent that the often-fragmented body of experts disagreed in their advice and arguments. The Party and government leadership was thereafter able to authorise any decision scientifically by choosing the most utilitarian solution from out of disagreement.

Mass organisations where the individual could follow his or her special interests existed in an astonishingly wide spectre. But that also meant that it was very difficult to avoid those organisations which cooperated with the Party, served mostly (not necessary detrimentally) educational purposes, and which were under the Party's administrative and ideological control. Legal mass organisations or special organisations outside this censored framework did not exist, or else attempts to create them were quickly destroyed.

In fact environmental agencies in the former communist countries are relatively new and are still in the process of forming, getting access to and using information for the restructuring of environmental politics.

By 1931 ecologists were being criticised more and more because their scientific approach would not fit into a simplified and dogmatised 'dialectical' version as the only state philosophy. Later, with the speedy realisation of the

Five-Year Plans, ecological research and theory were dismissed because of noncompliance with 'Soviet practice', 'specific, evolving social, economic, and political policies of the Soviet State' (Weiner 1988: 4f.). That meant that ecology was sacrificed for often monumentalist projects and short-term economic benefits. But there was always a technocratic opposition (ecologists and conservationists) to the Party's monopoly of decision-making. They would never be silenced completely; they were not only patriots who loved their country, but they also were convinced that their expertise was crucial for the rational exploitation of natural resources. In order to be able to fight against three gigantic opponents – the Party, Soviet science and Soviet economy – they needed creative and effective strategies which look like murky compromises or capitulations. Weiner calls this 'protective coloration', 'to retain a measure of legitimacy [was] by employing the grandiloquent rhetoric of "socialist construction"' (Weiner 1988: 4). To have any influence at all they had to play the rules of 'total unity and support at all stages of the policy process [which] were deemed necessary to maintain the myth of Party infallibility' (Ziegler 1987: 27).

After Stalin, substantial changes took place. The Party had to rely more and more on specialists to understand the environmental impacts of its policy. Specialists did not necessarily agree on a strategy; the consequence was a more and more public discussion which would eventually take place in the media and would include the public. Nevertheless, the Party stayed the infallible institution and would make the decision anyway; but the decisions were made much more cautiously, and environmental arguments were drawn more and more into consideration. The diversion of the Siberian rivers planned to save the Aral Sea and to irrigate the potentially fertile land in Central Asia was discussed for years, and the project of the diversion was in the end abandoned.

Decision finding and implementing was administratively supported and realised by the duplicate system of central and regional organisations in the Party and government. The responsibilities and interests of horizontally and vertically hierarchised bureaucratic organisations were defined rather narrowly. Overlapping territories and different levels caused conflicts and thus delayed or even misdirected necessary decisions. More often the phenomenon of 'departmentalism' guided a limited point of view. Every factor outside its spheres of interest could be neglected or ignored, because the organisation was only measured by its success in a defined area. The broader impact of the decisions was not necessarily relevant; unintended impacts on the environment, especially by industrial or agricultural bureaucracies, were rather common.

The Bolsheviks had been an underground party before 1917. Membership was small, connections were personal, planning and actions flexible and spontaneous. The vanguard of the working class consisted of highly motivated 'class-conscious' professional revolutionaries who convinced and stimulated. The actual events were organised by local recruits. After 1917 that changed. An enormous Party apparatus grew, whose members supervised a narrower and narrower field of assignments, and who supervised a duplicate State apparatus;

this double structure existed on each administrative level. The State apparatus recognised problems, put them on the agenda, developed strategies and solutions, and made the policy. The policy was then approved and guided by the matching Party institution. Class-consciousness or motivation or enthusiasm were not required characteristics, but efficiency in achieving results (any means allowed), adaptability, verbal skills were. The time of spontaneity, persuasion, flexible leadership and locally direct management was over.

In a slow, undifferentiating, centralised bureaucracy, all problems including nature lost their concreteness, their urgency. Things were decided from far away by bureaucrats who did not know the matter, the place, the conditions, the involved people. Incompetent decisions were not necessarily the result of vicious or incompetent people, but 'because of the lack of information, endless bureaucratic obstacles, ineffective control, and, most important, a dismissive attention on the part of central authorities towards local interests' (Kotov 1993: 13). A Soviet manager estimated that 90% of the urgent water problems had their origin in administrative and organisational, and not in scientific, reasons (Komarov 1980: 40). Peterson describes a water-related case:

> To maintain its large budget and staff, the agency [the Ministry of Reclamation and Water resources], with the help of in-house research institutes, continually advocated new projects, regardless of their merit. The environmental effects of such projects largely were irrelevant. Although reorganised several times over the 1980s, the ministry remained concerned solely with moving water – the more the better. Issues such as water quality or agricultural output were not its concern. (Peterson 1993: 62)

The Russian conservationist G.A. Kozhevnikov complained in late summer 1917 about the devastating conditions for environmentalists in a country without democratic traditions and experiences. As a last criterion he mentioned the 'lack of any awareness of the duties of citizenship' (Weiner 1988: 21). This is also true in regard to the post-revolutionary Soviet Union. Even if the people were aware that new and more serious man-made catastrophes were the results of political decisions, the frustrating and numbing everyday problems of a bottleneck economy led to a 'combination of indifference and ignorance' (Ziegler 1987: 39) towards environmental problems.

But citizens can only practise and take care of their duties in a democratic society which gives them clearly defined rights and responsibilities, gives them free information, free media, intellectual and political plurality and a democratic legal system. Although the Soviet Union developed a remarkable body of environmental laws, it nevertheless was an ecologically lawless territory. Law enforcement was inconsistent and punishment was marginal. It was often cheaper for a company to pay the fine than to install expensive corrective technology. The Party took the necessity for civil awareness away from the individual by providing objects for identification, and using the media to pretend progress in living standard and accomplishments in transforming nature for

man's wellbeing. (The immanent progress in all social areas is one major rule of the Enlightenment narratives.)

In the 1950s environmental concerns were expressed in connection with conservation and the avoidance of waste of natural resources. The discussion about Lake Baikal brought the topic of environmental protection to the agenda. The public was represented by well-known 'citizens' – specialists, writers, and Party functionaries – whose opinion mattered because of their public role in Soviet society. In the 1970s Party and State apparatus picked up the environment as a permanent subject in economic planning, budget formation, and the establishment of environmental laws. But opportunities for the citizen to express awareness and concern were limited for different reasons. Ze'ev Wolfson remarked that historically the Soviet citizen was well able to inform him/herself very thoroughly and correctly about the ecological situation in the United States, even in the Russian language. But even today he/she still is not able to get this detailed picture of his/her own country because of 'the lack of objective information, the impossibility of comprehending the situation as a whole and its possible development' (Komarov 1980: 17). Even reliable and correct maps were and still are not available – they were classified as military and secret knowledge.

The secrecy and distortion of systematic and detailed information about the environment alone would make the efficient work of environmental groups and organisations impossible. The function attached to the Soviet environmentalists was basically 'a fine-tuning of the current economic and political structures' and were to 'propose marginal improvements in the system' rather than 'any major overhaul' (Ziegler 1987: 40, 42). The political status quo is not violated: the taboos of the leading role of the Party and its decision-making monopoly and central planning, continued economic growth and the promotion of science and technology stay intact:

> Many Soviet specialists postpone total solution of ecological problems … until communism. Until the day when at a wave of the hand, all the difficulties of economic growth and all political and national problems will dissolve in an ideal society. Such a position is very handy for outright political calculations as well. (Komarov 1980: 98)

4. THE IDEOLOGICAL

Antonio Gramsci expressed his hope in the Prison Notebooks that Marxism, 'the philosophy of practice', would become the frame and guidebook for a 'great popular reformation'. Gramsci was claiming that Marxism had ideological, intellectual and moral authority and validity. The Bolsheviks also stressed the omnipotence and omnipresence of their ideology:

> The philosophy of praxis {or Marxism] presupposes all this cultural past: Renaissance and Reformation, German philosophy and the French Revolution, Calvinism and English classical economics, secular liberalism and this historicism which sat the root of the whole modern conception of life. The philosophy of praxis is the crowning point of this entire movement of intellectual and moral reformation, made dialectical in the contrast between popular culture and high culture. It corresponds to the nexus Protestant Reformation plus French Revolution: It is philosophy which is also politics, and a politics which is also philosophy. (Gramsci 1971: 385)

Timothy Luke's term 'conceptional utopia' precisely hits the quasi-religious future-promising orientation and also the embrace of the prescriptive normative-behavioural and emotive-motivational matrix (Luke 1985: 8). Stalin dropped the emotive-motivational element during the Cultural Revolution (1928-1931). The 'disenchantment' of the Socialist revolution had various reasons. To realise his political and economical goals and to strengthen and secure his successive reign after Lenin, Stalin eliminated the 'engine' of the revolution – Lenin's professional revolutionaries; and the 'brain' of industrialisation – the old 'bourgeois' intelligentsia. The philanthropic plan for an egalitarian Socialist society had to face the economic realities by socially differentiating the proletariat.

The 'utilitarian' approach of the Bolsheviks towards nature got important philosophical impulses from the long philosophical line of the European Enlightenment tradition of Bacon and Descartes, and from Marx's historical and dialectical scientific Communism. 'One was the impulse to desacralise and demystify nature. Desacralisation of nature made it ideologically possible for humans to strive to dominate and to transform.' (Weiner 1988: 233f.) But it also 'alienated' the people from their places, turned nature into 'free goods', readily available commodities.

Stalin and his successors changed Lenin's Party from being a vanguard of the working class and the necessary driving force for the revolutionary transformation under coup and war conditions, into the sole organisation equipped to discover the objective laws of nature. Lenin had advised discovering, learning and utilising the laws of nature. Later the simplistic dictum was that in the right socioeconomic formation it was possible to find out the 'objective truth' about laws in nature and society easily.

> Each action of the new agent of history, the Proletariat, is constructively and scientifically guaranteed in advance in the clear spaces of political geometrism.... When the concepts of each scientific field are deliberately generalised and made to solve global problems, they turn into metaphors. They turn into crevices, through which gapes the wonderful view of a brand new world. Such an amplification of the scientific concept into a world-building metaphor, into a mythical poetic figure, is a political manipulation of a political design for a total and radical world modernisation. The concept as an instrument of science is usurped by the actual political design and comes to be used as a metaphor.... Science justifies all. The politically perfect world is the one which can be scientifically justified. (Todorov 1991: 370)

Of course, because the Party knew the truth, and managed the relationship of society to nature 'consciously,' there were not the contradictions in society and environment that capitalism suffered.

The founders themselves didn't offer many guidelines for the natural sciences. Marx's *Capital* and 'Theses about Feuerbach' gave the basic approach; Engels' 'The Role of Labour in the Transformation from Ape to Man' and especially his 'Dialectics of Nature' were canonised and narrow-mindedly used for the exegesis in the likewise dogmatised Soviet science. Both Marx and Engels shared the positivist optimism of the 19th century, that nature as the origin and source of capital would provide the limitless natural resources to ensure technological and material progress to satisfy the spiritual and physical needs of society for eternity. They found 'capitalist accumulation and its exploitation of both man and nature [was] historically necessary for material security and environmental harmony' (Ziegler 1987: 12). Man's alienation from his own labour and from nature and thus the exploitation of nature would only cease to exist in a society free from exploitation of the individual producer. Engels writes more concretely about the relationship between humans and nature; but his conclusions are also more ambivalent. On the one side he warned against conquering nature mercilessly and hoped that with the advance of science humans would learn to live in harmony with nature. The emancipation of the worker was not just a political and economical emancipation, it also meant generally the 'emancipation of the humanity as a whole' (Economic and Philosophic Manuscripts of 1844, quoted in Luke 1985: 75). On the other side, the founders repeated the existing Christian conviction that the evolution of humans had lifted them above all other living organisms and argued that 'day by day science increasingly makes the power of nature subject to man' (ibid., quoted in Ziegler 1987: 12).

Marx and Engels prophesied that the proletarian revolution would be victorious at first in the most advanced capitalist country, because, in adaptation of one of Hegel's dialectical laws, the saturation of quantities would lead to a new social quality. Instead, Marxism became very influential and popular in the revolutionary movement in 'the weakest chain element of capitalism' (Lenin). Why? Georgij V. Plekhanov, who wrote the first systematic Marxist analysis of the situation in Russia, and later, Lenin, 'russified' and modernised Marx and Engels by stressing their 'messianic myth-creating religious side' and by neglecting 'the determinist, evolutionary side' (Berdyayev, quoted in Luke 1985: 94). They provided the Russian revolutionary intelligentsia with:

> A rationalist positive explanation of history, society and economic change posed on the level of an intellectual's sensibilities; a messianic theory of class struggle, revolutionary violence and rapid economic change that spoke directly to this alienated quasi-Westernised minority in a pre-capitalist, semi-Asiatic empire; and the ideological matrix for an ascetic civil religion derived in part from Western European

> Christian culture, which valued zealous belief, individual responsibility, self-discipline, and harsh ascetic dedication. (Luke 1985: 83)

Marxism promised further Europeanisation of Russia, so that even bourgeois politicians used parts of Marx's terminology, because Marxism united science and morals. Lenin's Social Democratic Workers' Party won the competition for the authentic Marxism against the 'Legal Marxists' (around Peter Struve and other bourgeois politicians) and the Narodovol'tsy (rural based anarchist revolutionary movement), because the SDAPR addressed real issues and developed strategies for the practical revolutionary fight, and because they embraced all social classes.

Stalin continued the Europeanisation of Soviet Russia, paradoxically by abandoning Trotsky's concept of the World Revolution and stressing the very autarkic fight for the victory of Communism in one country. Not only was the Soviet Union politically and economically an outcast in world economy; in the self-proclaimed class war foreign influences were often suspiciously refused and discouraged as espionage. The economic insulation furthered the ignorance of any economic categories, like values, production cost, price, etc.

In the battle for economic self-sufficiency and against backwardness, or any obstacles to industrialisation and collectivisation, nature reached the status of a 'class enemy.' Nature was anthropomorphised, a conscious antisocialist force which had to be defeated and suppressed. 'Wilderness' is, naturally, outside control, outside rationality, of no use for humans, and therefore had no value to society. As it was, nature was not acceptable, so the plan was to transform and make it new.

This destructive attitude towards nature was not necessarily born out of hate. The struggle for the total conscious management of nature is a very old human dream. Nature's purpose was to be used, formed, moulded by man. Man would discover and bring out the potential and beauty of nature; man's activity enriched nature and made it blossom. Stalin and the Party dreamed the dream of the powerful: to control and master everything – nature, history and humankind.

The fierce battle of industrialisation was accompanied by the conviction that even the study and obedience of natural laws, valid previously in class society, was no longer necessary; socialist society created the framework where man was God and was master of everything and could change everything at will. Mankind had always wanted to break out of his limits, wanted to do things it was not able to. The Party had to deliver miracles in order to strengthen the belief of the people in the ultimate course of Socialist construction for a glorious Communist future. The leaders could not accept limits or laws; their cult status was, among other things, dependant on the claim of supernatural ability. Monumentalist projects, new achievements of Socialist science, which put aside old truths as nonsense, were necessary. Robert Tucker called this 'transformist thinking', which would deny 'that there was anything arbitrary, subjective, risky, or unpredictable about the various schemes for transformation that the regime put forward' (Tucker 1971: 146).

The greatness of outstanding 'bourgeois' scientists lies in their humble respect for nature and the acceptance that the human mind cannot solve every problem, that there will always be the mystical unknowable. To minimise the unpredictable and spontaneous character of nature – which he understood probably as a personal affront against his leadership omnipotence – Stalin was willing to run the risk and allow some charlatans to dump big parts of the body of knowledge, accumulated over centuries. He was

> not willing to accept establishment biology's limited ability to know, predict, and control events and unable to live with the limitations of acting in a statistical, probalistic middle ground, Stalin turned to the forces of home-grown practical science to give him the manipulative powers he craved. (Weiner 1988: 130)

The representatives of the adapted Mitchurinist biology of the 1930s (*Khudotwortsy* = Wondercreators) rejected basic research, called it 'science for science's sake' and practised voluntarism and showed a preference for applied and social-minded science. They also, with more skilful than reasoned propaganda, fed the Party's need for and the population's belief in miracles. The wonder technology – *Biotekhnika* – absolutised methods and techniques to increase fertility and fecundity of plants and animals with acclimatisation, vernalisation and artificial insemination. The chief proponent of this biology, Trofim D. Lysenko, who directed and conceptualised natural science in the Soviet Union until the 1960s, even under Khrushchev, managed to convince Stalin that Lamarckism was not only consistent with dialectical materialism but essential to the Soviet economic agenda. Lysenko believed Lamarckian evolution would prove to be the key to Soviet economic (particularly agricultural) success. Lamarckian evolution would allow grain crops to be planted in environmental conditions that were then unsuitable; but, through the speedy acquisition of environmentally induced characterisitics, crop species would quickly adapt to even the harshest of conditions (Hickey 1992: 35).

By eliminating the whole direction of genetics in biology in the Soviet Union, the Party 'scientifically' reacted against the 'undialectical' thesis that the genes made every living being unique, which is an antithesis to Soviet ideology that the social conditions primarily coin and change beings.

The criteria for Soviet scientific standards was practicability; scientific methods and programs had to be in compliance with the actual and specific political and economic policies. The Soviet Union claimed to be a scientific society with a 'scientific' Weltanschauung. But even the scale of the 'dialectical' and 'scientific' philosophy of Marxism-Leninism was ignored in measuring the validity of scientific achievements. And, until the sixties, science in the Soviet Union was more or less descriptive and unable to solve problems; also the Soviet Union for about 30 years had not taken part in the scientific competitions and the scientific life of the world. A lost 30 years. The damage thus caused for the Soviet Union is uncountable and certainly irreparable.

5. THE AESTHETIC

The first People's Commissar for Enlightenment, A. V. Lunacharskii, said about art in the new society: 'Art is above all the organisation of the emotions in individual persons or groups, class and whole nations... The art of the proletariat is the expression of the process of the organisation of its soul-life.' (quoted in Luke 1985: 172). Lenin had, above all, especially the educational and didactical functions of art on his mind. Art had to reach the masses and had to reorganise their emotional ties and to create class values. Mass-produced art had to mobilise, to encourage, to enthuse the working population. Popular art forms had to carry easy messages in order to illustrate the miracles of socialist construction. Art was to be affirmative, to strengthen the belief in the ultimate cause, to maintain the power of the leader and the Party. Avant-garde art, which bloomed after the October Revolution in many '-isms' was pluralistic, innovative, critical and, thus, subversive.

The 1934 Writers' Congress banned the subversive art forms. So Soviet art adopted conventional and popular forms: the tabloid witness report for the successes, the mystery for detected crimes of the enemies of the people, the romance for the characterisation of the new and bright life in the Soviet Union. Many writers chose the means of the 19th century novel – clearly evaluated characters (good or bad), a clear plot, a teleological ending, an easy message. (That does not say that Soviet art is boring or is not innovative. Soviet literature is, in the tradition of Russian literature and in the continuation of Western and Non-Western influences, one of the most fascinating areas for readers and literary critics.) As in the Victorian novel of Dickens, artists invented a glorified quasi-reality or wishful reality to transmit a moral. Soviet literature in its prescribed and canonised patterns described a fake world; the hero was the whole proletariat. But the proletariat did not even reflect the artistic image; it had actually disappeared. It was certainly not the owner of the means of production; it certainly had not stepped forward from victory to victory and its members' lives certainly did not become brighter or more beautiful. The proletariat were fragmented, alienated and controlled individuals who lived in two worlds: the actual, private of isolation, dependence and limited wealth; and the public world of the proletarian heroes of art and media.

Art was thus not just the obedient handmaiden of the economy. Art was much more important and influential for maintaining power and the 'consciousness' of the people. Art presented reality, not necessarily Reality Proper, but idealised, ideologically prepared reality. Crises, including environmental crises, were non-existent, because they were not signified to the subjects.

The monumentalism of the 'cathedrals' of industrialisation were sanctified by and reflected in the monumentalism of literature and art. Writers wrote epics again, monumental, grand, holistic, social panoramas; they created monumental heroes, who were interchangeable like templates. Weiner calls it 'Soviet Prometheanism' (Weiner 1988: 2). The economically worthless Belomor canal,

built in record time, but not lined and not deep enough, and which cost the lives of thousands of labour camp prisoners, became in the media and art a unique success of Soviet industrialisation. Slave labour without the appropriate tools and technology was idealised into creative work of the conscious proletarian; even Lenin's corrective element was used: by surviving the labour camp, prisoners were granted a chance to become a worthy member of Soviet Society again.

'Communism created ultimately effective aesthetic structures and ultimately defective economic ones' (Todorov 1991: 363). That means, Communism never worked in practice. In reality, it worked in the mind, as utopia, as a representation of being right and on the right side, of being guaranteed future paradise on earth, which was crucial for people living in a socialist society. And it worked in the mind as a representation of an alternative and constructive option after social criticism of the existing world, as a possible paradise on earth in the future; or as a representation of the bad, the Other, the irrational, the unpredictable and the unexplainable; and as a possible scary future for people not living in a socialist society. Communism was not recognised as an economy, but as an ideology – to believe in, or to confront and affirm one's reality.

'Factories in communism are not built to produce commodities. They produce symbolic meanings' like industrialisation, victory, progress, superiority, success. In the bottleneck-economy reality, it meant 'deficit of goods', and in reversed proportionality an 'overproduction of symbolic meaning' (Todorov 1991: 363). The significant is not the economic, but the aesthetic. The factory itself, the working class – reflected in images of the individual proletarian – do not produce commodities; they are produced metaphors. Metaphors are expressed in language. Language is the building of the mind. 'The productive means of language', 'key metaphors and symbols' (Todorov 1991: 364), are worked out by Party ideologues and saturate the media, and are consumed and reproduced by the consumers. Metaphors are more important than machines; the production of symbolic meanings is more urgent and influential than commodities.

Political economy in communism is 'simulative' economy, or 'political aesthetics', because it only pretends to be an economically motivated society. Genuinely economic causes and symptoms are not the subject of it; the teleological narrative of communism creates only simulative ones.

The utopian element is – besides the critical analysis of 19th century capitalist economy, and the Marxist version of enlightenment dualism, the critically and historically dialectic approach to thinking – a respectable element in Marxist philosophy. Utopia is a political and poetic genre. Utopias have their own narrative, discourse and metaphors. Utopia during all times, and in a religious and civil-religious way, compensated for the faults of society – injustice, oppression, exploitation, powerlessness, poverty, speechlessness – by a pleasant teleological way out, sometimes impossible and funny, sometimes close and emotional. Utopias are – in an 'alienated'/'estranged' (Brecht) way –

a kind of criticism of power structures and social reality from a different point of view. But utopias are also consolation, lullabies to promise relief and solution.

What happens when the utopia is transformed into real political structures? Following the logic, it does not make much sense from the point of view of an observer or of a 'believer'. The two purposes are gone – the critical and the consoling. The legitimate discussion of questions like – Do we need utopias any more? Are utopias really helpful and good for us? Can any utopias work? – must be put aside here. Marx's economy was written in the 19th century; his concepts can't be all valid 100 years later.

Utopias are not an economic category; they can't really be copied. Dialectics is just one way of thinking; it can't be upgraded to a dogma. Utopia transformed into reality lands in the superstructure, creates aesthetic and rhetoric principles, symbols and meanings, and does not even brush the economic base. It 'reigns over bodies with words'. It falsifies, colours, creates, manipulates, transforms the social processes through language. It is not reality which 'legitimises the actual political order' (Todorov 1991: 364), but symbols, which grow to allegories. The Party power is represented and gets authorisation through a carefully created, aesthetically structured, hierarchical system of symbols. That hierarchical system limits symbols, language, a society. Signs become instruments to generalise patterns. The rhetoric of communism is poor and conventionalised, the figures of speech are boring, the language patterns are simple – since everybody understands them, any changes are important and meaningful. But they don't change much, because the symbolic meaning of the metaphors signifies the solution of social conflicts of class society; they mean the teleological ending of history; they are for eternity. Carefully symbolised bodies, names, and events legitimise the existence and prove the superiority of Communism. Principles become conventions and dogmas; morally approved behaviour becomes a convention and a ritual.

'Political aesthetics deals with the magic, not with the economics of the experimentally built totalitarian society' because the 'communist experiment is guaranteed by the magical reality' (Todorov 1991: 364f.) of the symbol. Lenin's body, flags, tankers, bullets, buildings, clothes, places, factories, dams, paintings, sculptures, mausoleums get a quasi-religious meaning. There cannot really be a doubt of the authenticity; the symbols have magic, an aura, that is proof for whatever is symbolised.

This altogether 'perpetually authorises and legitimises party power'. Again, the symbols 'will go on being the magic tool creating the political aesthetic reality, which is the entire reality of communism'. The Party rules over the symbols and the language. An honorary red banner from the Central Committee proves the economic success of a factory, not its statistics or commodities. Even before 1917 there are several historical examples of 'the merging of the political and aesthetic projects.... One of the characteristics of modernist culture at the beginning of this century was the idea of radical liquidation of the inherited

structures and the generation of a yet unseen and bold phantasm for the working out of an unprecedented society' (Todorov 1991: 365, 380).

The Plan is an artefact and fiction, but it is supposed to be true and law. The Plan is always fulfilled, because the confession of having failed would violate the law, would prove the truth a lie. That never happened, not because the economy (the actual production of commodities that people can actually buy and consume) is real, and it can't be real because failure would destroy eternal validity, but because the magic of the aesthetic creates reality with fictitious numbers, with 'real' images and verbal reflections in patterned metaphors; and because the speech figures legitimise eternally valid symbols. The big teleological narrative of the Plan causes innumerable tales of fiction: how the irrationally conceptualised figures of an almighty Central Plan Committee are forced, translated, interpreted from the Central to the republic, district, county, and local levels and back. The numbers of cows, bras, car tyres on paper for the Plan script never became 'real' cows, bras, or car tires, but return as paper, obediently echoed numbers. The Plan is fulfilled, the law is obeyed, the truth is proved, the producer saved. The worker as producer is rewarded – not with commodities (those exist only on paper) but with praise, glorification and honorary banners. Everybody knows it; it is not necessary to verbalise it, and it never materialises in the media. The victorious, teleological speech patterns remain intact; the symbols remain unharmed and unchanged.

Nature becomes a mere signifier for aesthetic and ideological functions; thus it is turned into a setting for a teleological plot. Pollution and destruction are censored, not signified and not real. Chernobyl did not take place for several days.

To bring this dammed meandering to an end: many Russian songs praise the huge woods, the pristine lakes and the majestic rivers in the former Soviet Union. The people love their country and they express their love by singing about it. The songs were symbols for patriotism, majesty, beauty. Now the woods, lakes and rivers have been mastered into wastelands, sewers or irrigation systems. The song has become a requiem.

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