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Some Memories of the Future

“In the social production of their existence, people inevitably enter into definite relations which are independent of their will, namely relations of production appropriate to a given stage in the development of their material forces of production. The totality of these relations of production constitutes the economic structure of society, the real foundation, upon which arises a legal and political superstructure, and which corresponds to certain societal forms of consciousness. The mode of production of material life determines the general process of social, political and intellectual life. It is not the consciousness of people that determines their existence, but rather their social existence that determines their consciousness.”

Karl Marx, Preface to A Contribution to the Critique of Political Economy¹.

In our discussion on the common goods of humankind, we address the basic needs of humankind in the context of democratization, socio-ecological transformation, and overcoming the capitalist system. We are dealing with the capitalist mode of production and the relations of production. The state of the development of the forces of production – in general terms: the material composition of the relationship between humankind and nature – is an essential element of this process; in general terms: the material composition of the relationship between humankind and nature. In the capitalist mode of production, this relationship is determined by exploitation. At the same time, changes are coming about which have implications reaching beyond the capitalist system.

In the following, I would like to address these changes in with reference to two examples: the critique of technology, and the development of political ecology.

For most of human history, nature was the powerful, even violent, *conditio sine qua non* of the immediate conditions of life of human beings. For most of human history, the concept of controlling the forces of nature was inconceivable.

¹ <http://www.marxists.org/archive/marx/works/1859/critique-pol-economy/preface.htm>; translation edited.

Only the development of the natural sciences and of technology and their utilization within the capitalist production process gave rise to the dream of the liberation of humanity from its subjugation to the forces of nature. Liberation from the dependence upon these forces of nature, and control over nature, constituted the core of modern faith in progress and omnipotence-mania – and for very long, indeed to this day, this faith has been the central ideology of the left. Let us recall Lenin’s popular slogan during the Russian Revolution: “Communism is Soviet power plus electrification.” No one can claim to have always got it right.

True, Karl Marx saw the development of society as the process of metabolism between humankind and nature, but the context of his theory, that which provides the guide to action, was concentrated on the direct capitalist process of utilization, and hence on the two factors capital and wage labour. Marxism concentrated on the consumption and disenfranchisement of the human being within this process. It did not however provide any critique of the process of capitalist relations of exploitation beyond that contradiction, i.e. the incorporation of the so-called free resources. These resources include, first, nature, and second, the immediately reproduction of human beings. One of the slogans of the women’s movement of the 1970s in Germany was, “Workers don’t grow on trees.” Rosa Luxemburg, by the way, was not a feminist; nonetheless, a reflection on the continued primitive accumulation within capitalism provided a basic theorem not only for the leftist critique of development ideology vis-à-vis the global South, but also for a materialist and ecological feminist critique of society (cf. Vandana Shiva & Maria Mies).

On the other hand, only the progressive control of nature revealed that nature and humankind constitute the societal process of reproduction, and that the societal process of reproduction needs to be much more broadly defined than it is in classical Marxist theory. The fact that science and technology have become the essential productive force in late capitalist society has not received an appropriate critical examination in the programmatic work of left sociopolitical strategies. However, they have a hard time incorporating the creative potentials which contribute to the development of society.

It’s no wonder that the term ecology itself was not coined as a scientific concept until the nineteenth century, by Ernst Haeckel; it was also a key element in the teachings of Charles Darwin. It referred to the research on

plants and animals, and was only politicized during the latter half of the twentieth century. This politicization process began during the 1960s with a critical examination of the use of pesticides and insecticides in agriculture, as described in Rachel Carson's *The Silent Spring*; later, in 1972, the Club of Rome report *The Limits to Growth* showed the relationship between the consumption of nature and the development of society.

However, the political ecology movements did not come out of nowhere. Their predecessors were the protest movements against the dangers of a nuclear war between the two Cold War blocs.

Moreover, the epochal experience of the 1945 nuclear bombs on human history, and the threat of a full-scale nuclear war gave rise to a leftist critique of nuclear fission and technological developments at an early stage: Robert Jungk, in his book *Brighter than a Thousand Suns*, which appeared in 1956, described the dramatic development of the nuclear bomb in the USA, while Lewis Mumford's *Myth of the Machine*, published during the mid-'60s, provided a fundamental basis for the arguments of a critique of technology (or technics as he called it), focused on the capitalist utilization of natural sciences and technology, without rejecting those disciplines as such – while Herbert Marcuse, who referred to the natural sciences and technology as particles of the machinery of domination. The contradiction between strict rejection and the attempt at a revision and a humanization of science and technology runs through the debate – including that within the ecology movements – to this day.

The history of the critique of technology is largely forgotten today. However, it is fundamental for political ecology. Moreover, it provides points of contact for a not only formal integration of political ecology into the left critique of society. Hence, it is worthwhile to briefly mention some essential demands of the critique of technology.

For Mumford, the issue is not the complete withdrawal from the use of scientific and technological processes as a productive force, but rather the centring of these processes to a human scale, and their subjugation to societal decision-making processes.

Two essential statements of Mumford's critique of technology are extremely current issues today, as they were in his time:

First, the embedding of technological and scientific knowledge into human societal consciousness, as polytechnical knowledge. This means that decisions regarding the design, implementation, operation and termination

of technological processes must be subject to political decision-making processes.

Second, all scientific technological processes must remain at a human scale. This also includes the demand that all technological processes be reversible, in other words, that all changes in nature resulting from technological processes be capable of being fed back into natural cycles.

This demand for the reversibility of technological processes is the essential point of departure for the critique of three essential technologies which today determine the capitalist production process:

- the use of nuclear energy, with its uncontrollable risks, which have become a threat to humankind
- the use of genetic technological processes in food production, and
- the excessive use of fossil fuel sources and, recently, non-fossil biofuels for combustion processes, which are threatening the earth's climate through global warming.

All these technologies involve permanent changes which are not reversible, and of which no one knows how they can be fed back into the natural cycle. As regards nuclear fission, the events in Chernobyl and Fukushima have provided us with the ultimate proof that this technology is uncontrollable, and that it has a destructive power which we are hardly able even to channel. In Chernobyl, hundreds of thousands of people were needed to try to put out the fire with landfill, cover it with a sarcophagus and clean up the area; according to generally unofficial estimates, some 60 to 100,000 of these mostly young people died. In Fukushima, the technicians and fire protection crews are suffering the same fate. The truth today is much worse than anything such futuristic novels as *Brave New World* or *1984* could have predicted. The lives of thousands of young people are being sacrificed to save the exploding nuclear domination machines.

The demands of the critique of technology have been reduced to the shortest denominator: if you don't know how to stop a technological process, and feed it back into the ecological cycle, then don't start it in the first place. This central law of the critique of technology is unmistakably linked to Kant's categorical imperative.

Political ecology has seized upon these demands. The critique of the consumption of the planet, of nuclear power, and of a food processing industry completely determined by industrial, chemical and now also genetic modification processes is at the core of political ecology, which has

thus moved two central material sectors of global capitalism, the energy and the food industries, into the centre of the critique.

Political ecology has reached many people. The ecology movements of the last forty years are beyond doubt the most successful social movements since the Second World War.² They are grassroots- democratic, strongly fluctuating, and the expression of the hopes of many people for a future with a new way of living. They are metropolitan movements reaching from San Francisco to Berlin and beyond. No longer is the conquest of nature the goal; rather it is the sustainable and respectful dealing with nature and natural resources. In terms of its dimension in everyday life, the ecology movements can be considered the new lifestyle of the educated urban middle strata of western civilization. They are concerned with the thrifty use of energy, so that their single-family homes are designed as low-energy houses with solar roofs. They shop at small local organic food markets with ecologically produced food from their own regions, and also in terms of their physical mobility, they try to use means of transportation which use as little petrol as possible. These educated urban middle strata use the freedom of choice provided them by their social status to behave in ecologically rational ways, without having to do without comfort and prosperity.

In many countries of Europe, the ecology movements have moreover organized successful Green parties; in other countries, such as Italy, they are powerful as grassroots movements, and have from the outset been politically oriented towards the left. In Germany, the ecology movements and the Green Party have, together with the Social Democrats, pushed through the phase out of nuclear power in the country, and have initiated the use of regenerative energy sources, and in the economically most powerful region of the country, the foundation of its export industry, they have just won the state election. The Energy Turn toward the use of regenerative energy sources has however been reduced to the question of how solar and wind power technology – particularly with regard to the power-line and storage issue – can be improved so that the quantity and reliability of the production of electric power can be ensured, not only for

² Although the ecology movements have been the most successful social movements, they have also been the most helpless. Global warming has not been stopped, even modest goals for the reduction of CO₂ emissions seem unobtainable – see the pathetic results of the Copenhagen conference of 2009 – and nuclear power continues to be used worldwide; even at after Fukushima, investments in new nuclear power plants are still planned. For peasants and small farmers, access to land and to non-genetically patented seed – perhaps the most important socio-ecological issue of human survival – is subject to an attack of immensely accelerated proportions.

private consumption, but also for industrial processes. That means that what is at issue is essentially the replacement of one energy technology with another, with no major disruption of the production process.

In all this, the critique of the capitalist mode of production has been somewhat lost sight of.

Internationally, the ecology movements have especially supported the preservation of the “green lungs” of the earth, the rain forests of Latin America, Africa and Southeast Asia, and the Taiga in Russia, and they have supported indigenous peoples in these areas. In this respect, the western ecology movements have certainly had an effect on the development of indigenous autonomy movements in the world’s regions.

The economic policy concept of the German Greens, the Green New Deal, seizes upon the idea of qualitative environmentally compatible economic growth. That concept, again, concentrates on two central capitalist economic areas, energy and food production. The massive expansion of solar, wind, hydroelectric and geothermal power sources, the return from agribusiness to regional agricultural production cycles, and certain specific areas of action, such as ecological urban planning and resource saving concepts in the transport sector and concepts of ecological mass transit have been raised as responses to the looming climate catastrophe. What is involved here is nothing less than a third Industrial Revolution. This statement is correct, without a doubt. The world is undergoing a complete restructuring of its industrial productive apparatus, and the reduction of CO₂ emissions has become a standard for the entirety of industrial production. In this sense, investment in ecologically compatible production, is already much higher in such countries as China or South Korea than it is in Europe. Brazil for example, produces almost 85% of its electric power requirement from hydroelectric power. At the same time however that country is also the leader in the production of biofuels, with their massive land consumption through of monocultures, which are contributing to a new wave of desertification on the earth.

The concept of the Green New Deal propagates a change in the material composition of production and consumption processes, tied to the hope that the entire production process can be transformed. There is trust in the power of persuasion of the projects described. The history of the success of the ecology movements forms the matrix for this hope: if many people want the right thing, if business, the movements and civil society work together,

changes in society can be implemented. Finally, it is especially the history of the use of solar power and wind power that confirms these hopes: solar and wind technology were not developed in the research departments of major corporations, nor through research and development projects funded by national or European subsidies, but rather in small workshops in Denmark, by engineering students in aerospace technology, by small engineering collectives in Germany, and by development projects in less developed countries, who developed low-tech projects in areas where there was no supply of water or electric power. Only very late was it possible, with government subsidies, to develop a market capable solar and wind power industry. That however also virtually reproduced mode of production and life, as well as the power and ownership structures of contemporary capitalism and of financial market capitalism. That made the introduction of renewable energy sources almost too easy – and is now reaching its own limits.

Civil society movements and political control are the two strategic options of the Green New Deal. They are other inestimable value as guidelines for action in practical politics, since they depend on the common sense of people and the primacy of politics. However, the Green economic policy concept does not contain any socio-political project extending beyond the repair of the material elements of capitalist production processes. In that sense, the Green New Deal is a project for greening capitalism, adapted to the regenerative ability of the capitalist system. It precisely fails to combine the ecological question with the social question, or, too, with the question of power and property.

This Third Industrial Revolution will bring forth new processes of integration, but they will correspond to intensive destruction of nature, the destruction of the foundation of life for whole segments of the population, and to social processes of exclusion. Capitalism depends on the exploitation of nature and of people, with ever new appropriation mechanisms, and – as the global crisis has shown in its various forms, from the climate crisis and the food crisis through the financial crisis to the nuclear crisis – in ever more gigantic dimensions.

Has political ecology then become a lifestyle project of the urbane middle classes of the global North? And is this lifestyle part and parcel of the interests of the rule of the North over the global South? It is certainly possible to get that impression, for example in the major international

conferences, where the rich countries of the North, the main perpetrators in the destruction of the climate, are demanding massive environmental protection investments from poor countries of the South. That however only touches the surface of the actual global power struggle, a struggle which goes to the very roots both of the capitalist and of the traditional socialist modes of production, and is also expressed in the debate surrounding the transformation of the societies of the emerging countries.

That debate has become especially intense in those countries of Latin America which are in a transition to a “socialism of the twenty-first century”. By means of redistribution measures based on traditional industrial policy and the exploitation of rich natural resources, leftist governments are trying to improve the social conditions of life especially of those of their people who are suffering most from poverty and misery. At the same time, with a new standards of value, such as the concept of *buen vivir* enshrined in the constitutions of Bolivia and Ecuador, and with respect for indigenous cultures, goals are being formulated which are in direct contradiction to classical industrial policy. The critique of extractivism is one expression of this contradiction.

Bolivia and Ecuador, by formulating new basic values and respecting the culture of the indigenous peoples, have introduced new goals for societal development and the relationship to nature into the international discourse. At the same time, the existential contradiction between industrial development and ecology remains unresolved – as is clearly visible in the development strategies of Venezuela and Brazil. On the one hand, the issue is the transfer of the rich natural and mining resources to national control, i.e. the struggle with the global capitalist major players, the development of national processing industries, and the introduction of minimal social standards for all citizens, in other words classical redistribution policies. None of the oil-producing countries – Venezuela Ecuador or Brazil – can in view of the massive impoverishment of major sectors of the population due to centuries of feudal rule and imperialism, dispense with redistribution policies. None of the countries with valuable natural or mining resources, such as lithium or rare earth metals, can dispense with their exploitation.

This potentially conflicts with the preservation of the natural conditions of life of local communities, and investment in ecological technologies, the construction of a small farmer economy and stopping the destruction of the

rain forests, and the participation of indigenous cultures in the political decision-making processes, as well as the attempt to re-determine the basic values of societies by respecting nature and living entities with their own rights, and the goals of good cohabitation of human beings beyond the structures of consumerism.

The contradiction between classical industrial development and the introduction of social standards on the one hand, and the realization of very ambitious ecological and socio-cultural goals on the other is neither theoretical, nor soluble in the real world – at least not under the capitalist conditions which are dominant globally today. This sobering fact only becomes bearable if the main emphasis is placed on implementing concrete projects, both for the practical and visible improvement of the social situation of the strata of the population affected by social exclusion, and, at the same time, for practical and visible projects of ecological and cultural renewal. Even if what is taking place in the Latin American countries ruled by the left, it is uncontested is a controversial process, it is obvious that we are seeing the beginning of transformatory social processes, in which both sides of the social contradiction confront each other.

Latin America teaches us that it is necessary to be aware of the contradiction between ecology and economy, and to ever again decide in a case-by-case basis and in the democratic process of negotiation in which direction we need to act – and to use as a standard for our own actions and ecological embedding in industrial processes.

This contradiction is without a doubt the most pressing expression of the conflict between the domination of nature and the re-conciliation of human beings with nature. But it cannot be resolved in the context of the current historic situation. What we can however demand of ourselves – regardless of whether we are leftists of the North or of the South – is that we create consciousness regarding this contradiction, and seek intelligent solutions in the concrete contexts of action, so as to make possible a step-by-step reduction of the domination of techno-capitalist processes over the human conditions of life on our planet.

