

## Capitalism and the Environment

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This is a slightly modified version of a paper prepared for the roundtable "Socialism in the World" held at Cavtat, Yugoslavia, in October 1988. It first appeared in the June 1989 issue of *Monthly Review*.

It is obvious that humankind has arrived at a crucial turning point in its long history. Nuclear war could terminate the whole human enterprise. But even if this catastrophic ending can be avoided, it is by no means certain that the essential conditions for the survival and development of civilized society as we know it today will continue to exist.

We live in and from a material environment consisting of land, water, and air which, historically, has always been considered to be and treated as infinitely durable and usable. This does not mean indestructible. History records many instances of the destruction (i.e., rendering unusable for human purposes) of parts of the environment by either natural processes or human agency.\* As far as the natural processes are concerned, they have been operating since long before there was human life and will presumably continue to operate long after, and there is no reason to assume any unusual change in the foreseeable future.

When it comes to destruction by human agency, however, things are different. Small-scale destruction of parts of the environment have occurred throughout history, and on occasion the scale has grown to quite impressive proportions (e.g., through desertification). But even the largest of these destructive processes have remained small compared to the size of the environment as a whole. Tribes or even more complex societies have been wiped out or forced to move to new locations, but these were always local, not global, disasters. And throughout the ages—in fact, right up to the time of people now alive—it was always taken for granted that this would continue to be the case. The reason was a belief, perhaps rarely thought through or articulated, that the means possessed by human beings were too puny to be a threat to the sheer magnitude and recuperative powers inherent in the environment.

All this began to change with the explosion of the first A-bomb in August 1944. At first the new bomb was perceived as essentially an improvement on already existing weapons, but an interrelated chain of events gradually led to a radical alteration of people's consciousness. The Soviets got the bomb much sooner than had been expected, thus shattering the notion that the new force could somehow be monopolized and controlled. Then came the H-bomb with its vastly greater destructive potential; and this in turn was followed by the escalating arms race between the superpowers which, despite much talk and a few largely symbolic treaties, continues to this day. It is now commonplace that each superpower has the capability to wipe out its rival several times over, and ongoing research into the consequences of all-out nuclear war has demonstrated beyond a reasonable doubt that the catastrophe could not be confined to the belligerents but would inexorably spread, in such ghastly forms as radioactive poisoning and nuclear winter, to the entire globe. Thus in the incredibly short time of less than half a century, humankind

has gone from blissful confidence in the security of its habitat to the certainty that its own survival, as well as the capacity of its natural environment to sustain life as we have known it, could be cut short in an instantaneous paroxysm of nuclear violence.

The full implications of this unprecedented change in human consciousness will obviously not become clear for a long time to come. But it is already evident that sensitivity to threats to the human habitat has spread rapidly from its origins in the overwhelming destructive power of nuclear weapons to encompass a variety of ecological processes and trends, most of which have been known and even studied for a century or more, but which have been increasingly seen in a new light since the beginning of the nuclear age.\* Once you know for certain that human agency can render the planet unfit for human habitation, you can hardly help asking whether nuclear weapons are the only possible source of such a catastrophe. Viewed from this angle, much that used to be regarded as merely the unavoidable negative side of progress is now seen to be part of a looming threat to the continuation of life on earth. It is hard to imagine a more fundamental change in perception and truly astonishing to reflect on how rapidly it has come about.

Within the framework of this perception, there are of course different positions. At one extreme are those who believe the danger is much exaggerated—perhaps a reflection of the pessimistic spirit of the time, itself largely a product of the nuclear scare. Let the nuclear arms race be brought under control, which now seems increasingly possible, and environmental deterioration will be seen in its true dimensions, not as a prelude to doomsday but as a series of problems that have been created by human agency and can be dealt with in the same way. At the other extreme are those who argue that things have really gotten much worse in the last half century and that we are now close enough to the point of no return to warrant the most gloomy forebodings.

The way the arguments pro and con are presented, these two positions often appear to be polar opposites. But this is an illusion: They actually have a common basis in the belief that *if present trends continue to operate*, it is only a matter of time until the human species irredeemably fouls its own nest.

Against this background it seems clear that everyone who shares the belief in the fatal implications of current trends has a moral obligation on the one hand to try to understand the processes that underlie these trends, and on the other to draw appropriate conclusions about what has to be done to reverse them before it is too late.

### **The Processes of Environmental Deterioration**

There is a vast literature on this subject, much of it of high quality, and this is obviously not the place to try to describe or summarize it. For present purposes, it is enough to point out that by far the largest part of the problem has its origin in the functioning of the world's economy as it has developed in the last three or four centuries. This of course has been the period of the emergence of capitalism and of the bourgeois and industrial revolutions, of coal and steam and railroads, of steel and electricity and chemicals, of

petroleum and the automobile, of mechanized and chemicalized agriculture—and of the rapid expansion and urbanization of the world's population in response to the massive growth of the forces of production at the disposal of humankind. All of these developments and others directly and indirectly related to them have involved putting growing pressure on the earth's resources, introducing new methods and substances into the processes of producing, using, and disposing of the worn-out remains of the things people, groups, and societies require for their reproduction and expansion. Perhaps there have been cases where these activities were planned and carried out with a view to respecting and preserving the natural cycles which over the ages have permitted living creatures, including human beings, to adjust to, and achieve a rough equilibrium with, their environment. But if there have been such cases, they have been so few and far between as to have left little if any trace in the historic record. The new departures that have combined to revolutionize the human economy have always originated with individuals or, relative to the whole, small groups in the expectation of achieving specific benefits for themselves. The indirect effects on the environment did not concern them; or, if they thought about it at all, they took for granted that whatever adverse effects their actions might have would be easily absorbed or compensated for by nature's seemingly limitless resilience.

We now know that such ways of thinking about the processes in question were and are delusory. Activities damaging to the environment may be relatively harmless when introduced on a small scale; but when they come into general use and spread from their points of origin to permeate whole economies on a global scale, the problem is radically transformed. This is precisely what has happened in case after case, especially in the half century following the Second World War, and the cumulative result is what has become generally perceived as *the* environmental crisis.

The major elements of this crisis are well known and require no elaboration here: the greenhouse effect stemming from the massive combustion of fossil fuels, combined with the accelerating destruction of carbon dioxide-absorbing tropical forests; acid rain which destroys lakes and forests and other forms of vegetation, also caused by fossil-fuel combustion; the weakening of the ozone layer in the upper atmosphere that protects human beings and other forms of life from the sun's potentially deadly ultraviolet rays; destruction of top soils and expansion of deserts by predatory agricultural methods; fouling of land and surface waters through industrial dumping and excessive use of chemical fertilizers and pesticides; mounting pollution of the oceans once thought to be an infinite repository of all kinds of wastes but now, in what has become one of the most visible aspects of the environmental crisis, seen to be fragile and vulnerable like all the rest.

This list is of course far from complete and hardly more than hints at the far-reaching and often subtle interconnections of the various components of the environmental crisis.\* But it is enough to indicate the general nature of the crisis as a radical (and growing) disjunction between on the one hand the demands placed on the environment by the modern global economy, and on the other the capacity of the natural forces embedded in the environment to meet these demands.

## What Has to Be Done?

Since there is no way to increase the capacity of the environment to bear the burdens placed on it, it follows that the adjustment must come entirely from the other side of the equation. And since the disequilibrium has already reached dangerous proportions, it also follows that what is essential for success is a reversal, not merely a slowing down, of the underlying trends of the last few centuries.

We have seen that at the heart of these trends is an economic system driven by the energy and inventiveness of entities—individuals, partnerships, in the last hundred years corporations—out to advance their own economic interests with little thought and less concern for the effects on either society as a whole or the natural environment which it draws on for the essentials of its existence. Already a century and a half ago Marx and Engels, in a memorable passage from the *Communist Manifesto*, paid a remarkable tribute to the energy and achievements of the then young capitalist mode of production:

The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of nature's forces to man's machinery, application of chemistry to industry and agriculture, steam navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalization of rivers, whole populations conjured out of the ground—what earlier century had even a presentiment that such forces slumbered in the lap of social labor?

Actually, when this was written in 1847 the rule of the bourgeoisie extended to only a small part of the earth's surface, and the new sciences and technologies harnessing the forces of nature to human purposes were still in their infancy. Since then capitalism has spread to become a truly global system, and the development and application of science and technology to industry and agriculture have progressed beyond anyone's wildest dreams a hundred and fifty years ago. Despite all the dramatic changes, however, the system remains in essence what it was at its birth, a juggernaut driven by the concentrated energy of individuals and small groups single-mindedly pursuing their own interests, checked only by their mutual competition, and controlled in the short run by the impersonal forces of the market and in the longer run, when the market fails, by devastating crises. Implicit in the very concept of this system are interlocked and enormously powerful drives to both creation and destruction. On the plus side, the creative drive relates to what humankind can get out of nature for its own uses; on the negative side, the destructive drive bears most heavily on nature's capacity to respond to the demands placed on it.\*

Sooner or later, of course, these two drives are contradictory and incompatible. And since, as argued above, the adjustment must come from the side of the demands imposed on nature rather than from the side of nature's capacity to respond to these demands, we have to ask whether there is anything about capitalism as it has developed over recent centuries to cause us to believe that the system could curb its destructive drive and at the same time transform its creative drive into a benign environmental force.

The answer, unfortunately, is that there is absolutely nothing in the historic record to encourage such a belief. The purpose of capitalist enterprise has always been to maximize profit, never to serve social ends. Mainstream economic theory since Adam Smith has insisted that by *directly* maximizing profit the capitalist (or entrepreneur) is *indirectly* serving the community. All the capitalists together, maximizing their individual profits, produce what the community needs while keeping each other in check by their mutual competition. All this is true, but it is far from being the whole story. Capitalists do not confine their activities to producing the food, clothing, shelter, and amenities society needs for its existence and reproduction. In their single-minded pursuit of profit, in which none can refuse to join on pain of elimination, capitalists are driven to accumulate ever more capital, and this becomes both their subjective goal and the motor force of the entire economic system.

It is this obsession with capital accumulation that distinguishes capitalism from the simple system for satisfying human needs it is portrayed as in mainstream economic theory. And a system driven by capital accumulation is one that never stands still, one that is forever changing, adopting new and discarding old methods of production and distribution, opening up new territories, subjecting to its purposes societies too weak to protect themselves. Caught up in this process of restless innovation and expansion, the system rides roughshod over even its own beneficiaries if they get in its way or fall by the roadside. As far as the natural environment is concerned, capitalism perceives it not as something to be cherished and enjoyed but as a means to the paramount ends of profit-making and still more capital accumulation.

Such is the inner nature, the essential drive of the economic system that has generated the present environmental crisis. Naturally it does not operate without opposition. Efforts have always been made to curb its excesses, not only by its victims but also in extreme cases by its more far-sighted leaders. Marx, in *Capital*, wrote feelingly about nineteenth-century movements for factory legislation and the ten-hours bill, describing the latter as a great victory for the political economy of the working class. And during the present century conservation movements have emerged in all the leading capitalist countries and have succeeded in imposing certain limits on the more destructive depredations of uncontrolled capital. It is hardly an exaggeration to say that without constraints of this kind arising within the system, capitalism by now would have destroyed both its environment and itself.

Not surprisingly, such constraints, while sometimes interfering with the operations of individual capitalists, never go so far as to threaten the system as a whole. Long before that point is reached, the capitalist class, including the state which it controls, mobilizes its defenses to repulse environmental-protection measures perceived as dangerously extreme. Thus despite the development of a growing environmental consciousness and the movements to which it has given rise in the last century, the environmental crisis continues to deepen. There is nothing in the record or on the horizon that could lead us to believe the situation will significantly change in the foreseeable future.

If this conclusion is accepted—and it is hard to see how anyone who has studied the history of our time can refuse, at the very least, to take it seriously—it follows that what has to be done to resolve the environmental crisis, hence also to insure that humanity has a future, is to replace capitalism with a social order based on an economy devoted not to maximizing private profit and accumulating ever more capital but rather to meeting real human needs and restoring the environment to a sustainably healthy condition.

This, in a nutshell, is the meaning of revolutionary change today. Lesser measures of reform, no matter how desirable in themselves, could at best slow down the fatal process of decline and fall that is already so far advanced.

Is the position taken here in effect a restatement of the traditional Marxist case for a socialist revolution? Yes, but with one crucial proviso: The socialism to be achieved must be conceived, as Marx and Engels always conceived it, as the quintessential negation of capitalism—not as a society that eliminates the most objectionable features of capitalism such as gross inequality of income, mass unemployment, cyclical depressions, financial panics, and so on. It is capitalism itself, with its in-built attitude toward human beings and nature alike as means to an alien end that must be rooted out and replaced. Humanity, having learned to perform miracles of production, must at last learn to use its miraculous powers not to degrade itself and destroy its home but to make the world a better place to live in for itself and its progeny for millennia to come.

One final note. We call the society with these revolutionary aims socialism. But it certainly will not and cannot be anyone's utopia. No doubt it will do many things badly, at least for a long time, probably worse than capitalism. The relevant questions are different: whether it has once and for all stopped emulating capitalism, set itself the right goals, and is genuinely striving to achieve them. If and when these questions can be answered in the affirmative, we shall be on the road to salvation.

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\*The distinction should not be drawn too sharply: Many environmental changes are the combined result of both natural processes and human agency. But there are some like the great geological transformations in which human agency plays no part, and others like the effects of deforestation caused by overcutting for which human agency can be considered solely responsible.

\*The connection between environmental concerns and the opening of the nuclear age was well expressed by Barry Commoner, one of the pioneers of a genuinely scientific approach to ecological problems, when he wrote in his pathbreaking work, *The Closing Circle* (1971): "I learned about the environment from the United States Atomic Energy Commission in 1953. Until then, like most people, I had taken the air, water, soil, and our natural surroundings more or less for granted....In 1946 the Atomic Energy Commission (AEC) was created to take charge of a massive U.S. program to develop the military, scientific, and industrial potential of atomic and nuclear energy. By 1951 the United States had exploded sixteen test bombs and the Soviet Union thirteen, and the following year Great Britain joined in with its first test." (pp. 49–50)

\* For a sophisticated analysis stressing the element of interconnectedness, see the above-cited work of Barry Commoner, *The Closing Circle*.

\* A more comprehensive analysis would have to deal with the creative/destructive drives of “really existing socialism.” For the most part, however, the countries in question have felt obliged to emulate, and in the process try to catch up with, the more developed leading capitalist countries. Under these circumstances, the impact of “really existing socialism” on the environment has been hardly distinguishable from that of capitalism. Whether a society of this type in a different global context—one in which it felt secure and able to pursue its own goals free of outside pressure—would have a qualitatively different impact on the environment, is an interesting question but one that lies outside the scope of this essay.