The thesis of the "second contradiction of capitalism" was put forth in James O'Connor's "Capitalism, Nature, Socialism: A Theoretical Introduction," CNS One, Fall 1988, and developed in "The Second Contradiction of Capitalism: Causes and Consequences," Conference Papers (Santa Cruz: CES/CNS Pamphlet 1) and "On the First and Second Contradiction of Capitalism," CNS Eight (2,3), October, 1991. Economists in Italy, Spain, Mexico, India, the U.S., Canada, and other countries were asked to prepare comments on this thesis for the first European meeting of Capitalismo, Natura, Socialismo (Italy), Ecologíaspecta (Spain), Ecologie Politique (France), and CNS Editors and Editorial Consultants, held in Valencia, Spain, on March 26-27th of this year. Interventions at the European conference, as well as other contributions to the debate, will appear in the next issue of CNS.

The Absolute General Law of Environmental Degradation Under Capitalism

By John Bellamy Foster

James O'Connor has asked us to consider the relationship between what he has termed the "first and second contradictions" of capitalism. I would like to refer to the first contradiction, following Marx, as "the absolute general law of capitalist accumulation." The second

1 "Like all other laws," Marx wrote of this absolute general law, "it is modified in its working by many circumstances, the analysis of which does not concern us here." See
contradiction may then be designated as "the absolute general law of environmental degradation under capitalism." It is characteristic of capitalism that the second of these "absolute general laws" derives its momentum from the first; hence it is impossible to overthrow the second without overthrowing the first. Nevertheless, it is the second contradiction rather than the first that increasingly constitutes the most obvious threat not only to capitalism's existence but to the life of the planet as a whole.

The first contradiction, O'Connor tells us, "expresses capital's social and political power over labor, and also capitalism's inherent tendency toward a realization crisis, or crisis of capital overproduction." It finds its expression in the limitless drive to increase the rate of exploitation. This "absolute general law of capitalist accumulation" results in the amassing of wealth at one pole and relative human misery and degradation at the other. It reflects an "oscillation of wages" that is "kept penned within limits satisfactory to capitalist exploitation" by the continual reproduction of a relative surplus population of the unemployed/underemployed. Today the "field of operation" of this law is the entire world.

The second contradiction of capitalism or the "absolute general law of environmental degradation" is more difficult to characterize since bourgeois political economy (together with its classical Marxist critique) has — for reasons related to the functioning of capitalism itself — never incorporated what Marx termed the "conditions of production" (natural, personal and communal) into its internal logic. Nevertheless, this contradiction can be expressed as a tendency toward the amassing of wealth at one pole and the accumulation of conditions of resource-depletion, pollution, species and habitat destruction, urban congestion,

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overpopulation and a deteriorating sociological life-environment (in short, degraded "conditions of production") at the other.

Under capitalism "the greater the social wealth, the functioning capital, the extent and energy of its growth," the greater are capital's ecological demands, and the level of environmental degradation. While the second law of thermodynamics guarantees that there will be an increase in "entropic degradation" with the advance of production, the existence of a capitalist mode of appropriation, with its goal of promoting private profits with little regard for social or environmental costs, guarantees that this entropic degradation will tend globally toward maximum economically feasible levels at any given historical phase of development. Worse still, the contemporary structure of commodity production, with its built-in dependence on pesticides, petrochemicals, fossil fuels and nuclear power generation, and its treatment of external habitats as a vast commons, tends to maximize the overall toxicity of production and to promote accelerated habitat destruction, creating problems of ecological sustainability that far outweigh the general entropic effect.\(^5\)

Although the "absolute general law of environmental degradation" in this sense relates primarily to the realm of natural-material processes and use value rather than exchange value, the costs borne by the environment rebound on the economic realm in multiple unforeseen ways, reflecting what Engels called "the revenge" of nature that follows every human "conquest over nature." "Labor," Marx observed, "is not the only source of material wealth, of use-values produced by labor. As William Petty puts it, labour is its father and the earth its mother." Capitalism grows, Marx contends, by exploiting the former and "robbing" the latter.\(^6\)

It stands to reason that such a freebooting relation to ecological systems cannot long persist without disastrous consequences for the economy itself. Thus we have witnessed the emergence of what has

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come to be known globally as "the environmental crisis" in the second half of the twentieth century (beginning with the onset of the nuclear age) — at a point in the development of the system when the scale and extent of its operation is in danger of overwhelming the major ecological cycles of the planet. This new awareness of environmental degradation, moreover, has forced itself on the consciousness of society primarily through its economic effects. For it is only at this stage in the system's development that general physical barriers increasingly translate into specific economic barriers to capital's advance.7

The reordering of capitalism that occurred with the rise of its monopoly stage in the twentieth century resulted in the enlargement of the first contradiction, making it more and more essential for capital to expand the circle of consumption while keeping the basic relation between capital and labor intact.8 Thus, the penetration of the sales effort into production, already perceived by Veblen, has become increasingly evident, undermining capitalism's claim to conform to the necessary conditions of production in general.9 An ordinary English muffin, for example, has been shown to pass through 17 "energy steps" following the growth and harvesting of the wheat, with the result that nearly twice as much energy is now utilized to process the muffin as to grow it.10 Supply-price therefore no longer conforms to rational principles of cost-containment. Instead, ever more baroque "commodity chains" are emerging, with each link in the chain deriving its justification from the increment of profit that it provides together with its contribution to the salability of the final commodity.11 Synthetic products, poisonous to natural and human environments, have become intrinsic to the development of the system.12 It was an understanding of this problem

(together with the expansion of armaments) that led Joan Robinson to insist that "the second crisis of economic theory" (the question of the content as opposed to the level of production) is now paramount.\textsuperscript{13}

Since the early 1970s, the world economy has been suffering from relative stagnation (or a decline in the secular growth trend) accompanied by rising unemployment and excess capacity. Capital has responded to this crisis in its usual fashion through supply-side "restructuring," or the opening up of the system to a more intensive exploitation (and superexploitation) of labor and the environment. Many regulations previously put into place to protect the conditions of production are now being cast aside — as Polanyi leads us to expect — under the ideological mantle of the "self-regulating market."\textsuperscript{14} At the same time, the system's core has been shifting away from the production of the goods and services that constitute GNP and toward the speculative proliferation of financial assets. One result of both of these processes has been an acceleration of the pace of environmental degradation. Hence, it is no accident that the last two decades have witnessed a speed-up in the destruction of the remaining natural forest ecosystems throughout the world, which by Wall Street criteria are viewed as non-performing assets to be liquidated as quickly as possible.

The second contradiction of capitalism therefore is rapidly gaining on the first — partly due to measures taken to compensate for the first—without the first ever abating. The result is a "hyper-capitalist" disorder in which the system is obsessed with both enlarging markets and finding ways around rising environmental costs.\textsuperscript{15} Since only a tiny proportion of environmental costs have thus far been internalized by capital and the state, it is a foregone conclusion that the economic repercussions of the second contradiction will grow by leaps and bounds — partly under the pressure of social movements — marking nature's ultimate "revenge" on the accumulation process.


\textsuperscript{14} Karl Polanyi, \textit{The Great Transformation} (Boston: Beacon, 1944).