

# Political Ecology: Expertocracy versus Self-Limitation

for Dick Howard

Depending on whether it is scientific or political, ecology covers two distinct, though interconnected, approaches. I will begin by concentrating on the difference between their objectives, rather than their interconnectedness. It is important to make sure that the political approach is not presented as the 'absolutely inevitable' product of a 'scientific analysis', to avoid producing a new version of the sort of scientific and anti-political dogmatism that, in its 'diamat' version, purported to raise political practices and concepts to the level of scientifically proven necessities, thus denying their specifically political character.

As a science, ecology deals with civilization in its interaction with the terrestrial ecosystem: the natural base, the non(re)producibile context of human activity. Unlike industrial systems, the natural ecosystem possesses a capacity for self-regeneration and self-reorganization which, by virtue of its great diversity and complexity, enables it to regulate itself and evolve towards ever

greater complexity and diversity. This capacity for self-regeneration and self-reorganization is damaged by techniques that tend to rationalize and dominate nature, to make it predictable and calculable. 'Our technological surges,' writes Edgar Morin, 'do not just upset the biological cycles, but disturb primary chemical bonds. Our response is the development of control technologies which treat the effects of these evils while exacerbating their causes.'

### Experts against Democracy

From this starting-point there are two possible approaches. The first, based on scientific study of the ecosystem, seeks to determine scientifically what techniques and what pollution thresholds are ecologically supportable: in other words, the conditions and limits within which development of the industrial technosphere can be pursued without compromising the self-regenerating capacities of the ecosphere. This approach does not involve a fundamental break with industrialism and its hegemony of instrumental reason. It recognizes the need to limit the pillage of natural resources and to substitute long-term rational management of air, water, soil, forests and oceans; it implies policies for limiting effluents and recycling, and the development of techniques which are not destructive to the natural environment.

Policies for 'conservation of the natural environment' are therefore—unlike political ecology—not directed towards pacifying relations with nature or achieving 'reconciliation' with it; they are intended to keep it tidy, to maintain and manage it, while bearing in mind the necessity of preserving at least its more fundamental capacities for self-regeneration. From this *necessity* will be deduced such measures as are dictated by the interests of humanity as a whole, the lines along which states will have to constrain their economic decision-makers and individual consumers.

The recognition of ecological constraints by states will be expressed by means of prohibitions, administrative regulations, taxes, subsidies and penalties. It will thus result in increased 'hetero-regulation' of society, whose workings will be made to become more or less 'eco-compatible' *independently* of any volition on the part of the social actors. 'Regulating media'—such as the administrative authorities and the price structure—will be used to channel consumer behaviour and investors' decisions towards an objective which the investors and consumers do not have to approve, or even understand. The objective will be attained because the administration will have managed to functionalize the motives and interests of individuals towards a result which remains foreign to them. Fiscal and monetary hetero-regulation (or so its supporters claim) has the advantage that it leads towards the objective of eco-compatibility without any need for change in the mentalities, values, motivations or economic interests of the social actors. Quite the contrary: it is by calling on these motivations and interests, and manipulating them at the same time, that the objective will be achieved. Its pursuit will therefore imply an extension of what

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<sup>1</sup> Edgar Morin, *La Vie de la vie*, Paris 1980, pp. 94–5.

Habermas has called the 'colonization of the life-world': the utilization of existing individual motivations, by managers of the system, to produce results that do not correspond to any intention on the part of individuals.

In the context of industrialism and market logic, therefore, recognition of ecological constraints results in the extension of technobureaucratic power. This is an approach that stems from a pre-modern outlook which typically is anti-political. It abolishes the autonomy of the political in favour of the expertocracy, by appointing the state and its experts to assess the content of the general interest and devise ways of *subjecting* individuals to it. The universal is separated from the particular, the higher interests of humanity are separated from the individual's freedom and capacity for autonomous judgement. As Dick Howard has shown,<sup>2</sup> the political is defined at the outset by its bipolar structure: it should be, and cannot be anything other than, an endlessly redrafted public mediation between the rights of the individual, rooted in his autonomy, and the interests of the whole society which accommodates and conditions those rights. Anything that tends to abolish the tension between these two poles is a negation both of the political and of modernity; and this is particularly and self-evidently true of expertocracies, in that they deny individuals the capacity for judgement and subject them to an 'enlightened' authority claiming to represent the higher interests of a cause beyond their understanding.

This is the course of the ecological imperative's ambiguity. As soon as it is taken up by the apparatuses of power, it becomes a pretext and a means for tightening their grip on daily life and the social environment, and is brought into conflict with the original aspirations of the ecological movement itself as a political and cultural movement. That is the underlying reason for the internal split between the movement's technocratic wing and its radical-democratic wing.

### Origin of the Movement

The ecological movement was born long before deterioration of the environment and the quality of life raised the question of human survival. It was born originally out of a spontaneous protest against the destruction of *the culture of the everyday* by the apparatuses of economic and administrative power. By 'culture of the everyday' I mean the whole self-evident collection of intuitive knowledge or vernacular know-how (in the sense given to this term by Ivan Illich), the habits, norms and modes of conduct that enable individuals to interpret, to understand, to assume responsibility for the way they inhabit the world that surrounds them.

The 'nature' whose protection the movement has demanded is not the nature of naturalists, or that of scientific ecology. Fundamentally, it is

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<sup>2</sup> Notably in the preface to the second edition of *From Marx to Kant*, London 1992; see also the same author's excellent *The Marxian Legacy*, London 1988. I gave a similar definition of the political in *Adieux au prolétariat*, Paris 1981, last chapter and epilogue.

the environment that appears 'natural' because its structures and workings are accessible to intuitive understanding; because it corresponds to a need for a flowering of the sensory and motor facilities; because its familiar structure enables individuals to find their way about in it, interact with it, communicate with it 'spontaneously' using aptitudes which have never had to be formally taught.

The 'defence of nature' should therefore be understood originally as the defence of a life-world, defined essentially as a world in which the result of activities corresponds to the intentions that gave rise to them; in other words, that social individuals see, understand and accept the result as the outcome of their actions.

The more complex a society is, the less intuitively intelligible its workings become. The mass of detailed knowledge employed in production, administration, trade, law, is far too bulky for the capacity of a single individual or group. Each retains only a partial, specialized body of knowledge, to be coordinated and organized by pre-established organizational procedures, by *apparatuses*, to produce a result beyond anything individuals are capable of seeking. A complex society thus resembles a large mechanical device; the social whole is a *system* whose workings require individuals to be *functionally specialized* like the organs of a body or the parts of a machine. However complex and advanced it may be in itself, knowledge which has become specialized to suit the systemic requirements of the social whole no longer contains enough cultural resources to enable individuals to find a direction in the world, to give meaning to what they do, or to understand the meaning of the enterprise to which their efforts contribute. The system invades and marginalizes the life-world, the world accessible to intuitive understanding, to practical and sensory assimilation. It deprives individuals of the chance to have a world, to share it with one another. It was against the different forms of this expropriation that resistance gradually came into being.

The first manifestations of what was to become the ecological movement,<sup>3</sup> initially in North America and then in Europe, were directed against mega-technologies for whose benefit private industries, and/or public administrations, were dispossessing citizens of their living environment. The environment was wrecked, technologized, concreted over and colonized to satisfy the demands of the giant industrial machine. This machine was edging the inhabitants out of the little that remained of the 'natural' world, hounding them with increasingly aggressive nuisances and, more fundamentally, confiscating the public domain on behalf of technical apparatuses that symbolized violation, by capital and the state, of the right of individuals to decide for themselves how to live together, how to produce and consume.

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<sup>3</sup> Obviously this is not the only form of protest against the destruction of the past world. Chauvinism, racism, xenophobia, antisemitism, are all examples of rejection of the incomprehensible and threatening complexity of a changing world. The disappearance of its familiar orderly arrangement is explained in terms of a conspiracy of malevolent alien forces and the corruption of the ruling classes. In other words, a reality which has become inaccessible to intuitive comprehension is attributed to causes which are intuitively accessible.

This violation was especially flagrant in the case of nuclear power. The reactor construction programme was based on political and economic decisions dressed up as technically rational, socially necessary choices. On the forecast of a very steep growth in energy demand, the programme privileged the most powerful concentrations of the heaviest technologies to satisfy these projected needs, and created groups of technicians who were sworn to professional secrecy and subject to quasi-military discipline. In short, the evaluation of needs, and of the way they were to be satisfied, became the preserve of a caste of experts, sheltered by a superior body of knowledge supposedly inaccessible to the population at large. The programme placed the citizens under tutelage for the benefit of the most capitalistic industries, at the same time justifying an extension of the dominance exercised by the state apparatus.<sup>4</sup>

The same sort of tutelage is exercised in more diffuse form in all areas where professionalization—and the juridical formalization, the specialization, that accompany it—downgrade vernacular knowledge and undermine the capacity of individuals to supervise themselves. These are the ‘disabling professions’ denounced by Ivan Illich.<sup>5</sup>

Resistance to this destruction of the capacity for self-supervision, in other words, the existential autonomy of individuals and groups or communities, lies at the origin of specific components of the ecological movement: self- and mutual-aid networks among the disabled, movements in favour of alternative medicine, the right to abortion, the right to die ‘with dignity’; movements in defence of languages, cultures, regions, etc. The underlying motivation is always defence of the ‘life-world’ against the rule of the experts, against quantification and monetary evaluation, against the substitution of mercantile, dependent, client relations for the individual’s autonomy and capacity for self-determination.

In appearance, at least, the movement was purely ‘cultural’. To political parties mainly preoccupied with the power to *manage the system* in the interests of their electoral clientele, the ecological movement could only appear anti-political: its concern was to ‘change’ life, to get it back from the system and the managers of the system by seeking to reoccupy lost areas of former autonomy and social conviviality.

In 1972 these apparently cultural demands were given objective backing with the publication of a report by a group of British scientists, *Blueprint for Survival*, closely followed by the report commissioned by the Club of Rome, *The Limits to Growth*. The realization that growth of industrial economies could not be maintained indefinitely, recognition of the destructiveness of the capitalist model of development and

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<sup>4</sup> In *La prophétie antinucléaire*, Paris 1980, Alain Touraine et al. show that by emphasizing the danger posed by nuclear power generation, the movement was motivated not by fear but by a desire to attack the cloak of omniscience in which the experts wrapped themselves, despite the risk that the debate would founder in sterile technical squabbling to the detriment of its political core.

<sup>5</sup> In *The Limits to Medicine*, London 1977, *The Right to Useful Unemployment*, London 1978 and *Shadow Work*, London 1981.

consumption, the weakness of the link between 'more' and 'better', had made it apparent that radical change to the techniques and objectives of production, and thus to the mode of life, was necessary. The 'cultural' demands of the ecological movement thus acquired objective justification in the form of the urgent (and scientifically demonstrable) need for a break with the predominant industrialism and its religion of growth. So ecologism could become a political movement after all. Defence of the life-world was not just a sectional, local aspiration lacking general validity, but something in tune with the interests of humanity in general and the living world as a whole.

The inverse, however, is not true: as we have seen, the recognition of humanity's ecological interests does not *necessarily* take the form—desirable from the individual's point of view—of a defence or, better still, a reconquest of the life-world. On the contrary, it may well take a technocratic form, leading to tightening of the constraints and manipulations exercised by the administrative subsystem. It is impossible to base politics on a necessity or a science without by the same token denying its specific autonomy, and establishing a 'necessary' or 'scientific' dictatorship, no less totalitarian when it refers to the needs of the ecosystem than when it refers (as 'diamat' did) to the 'laws of dialectical materialism'.

The problem that faces political ecology, then, is the problem of defining practical modalities enabling the needs of the ecosystem to be taken into account by the personal judgement of autonomous individuals in pursuit of their own ends within their own known world. It is the problem of retroactive coupling of necessity with normativeness or, if you prefer, the transformation of objective necessities into normative behaviour corresponding to needs that have been experienced, and that influence the form in which the objective necessities are perceived. This is none other than the problem of democracy.

### Managing the Metabolism

According to Marx, this problem appeared to be soluble once industrialism had engendered the objective conditions and the subjective capacity for generalized self-management. The end product would be a (communist) society in which 'socialized man, the associated producers, govern the human metabolism with nature in a rational way, bringing it under their collective control, instead of being dominated by it as a blind power; accomplishing this with the least expenditure of energy and in conditions most worthy and appropriate for their human nature. But this always remains a realm of necessity. The true realm of freedom, the development of human powers as an end in itself, begins beyond it, though it can only flourish with this realm of necessity as its basis.'<sup>6</sup>

Necessity, in other words, is shouldered by the organized producers in accordance with the normative double requirement of minimum labour and maximum satisfaction, on the one hand, and the rational

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<sup>6</sup> Karl Marx, *Capital* Volume 3, Harmondsworth 1978, p. 959.

management—intelligible to everyone—of ‘metabolism with nature’ on the other. The rationality referred to here would imply the upkeep of the ecosystem, combined with the development of means of production capable of being mastered by the associated producers, who would manage themselves instead of being dominated by industry’s gigantism and complexity.

In the context of self-management, freedom would repose on the faculty of the ‘associated producers’ for *arbitrating* between the quantity and quality of labour required per product unit for different means and methods of production; but also between *the scale of the needs or desires they wish to satisfy and the amount of effort they are prepared to deploy*. This arbitration, based on known, common norms, may lead for example to the adoption of more relaxed and gratifying ways of working (more ‘favourable to human nature’) at the cost of reduced productivity; it may also lead to *limiting needs and desires in order to reduce the amount of effort required*. In practice, the norm whereby the level of effort is regulated to suit the desired level of satisfaction and, vice versa, the level of satisfaction sought is brought into line with the level of effort people are willing to make, is the norm of sufficiency.

Now the establishment of a norm of sufficiency, involving as it does the self-limitation of needs and of the effort given, is incompatible with the drive for maximum output which is the essence of economic rationality and rationalization. In fact, economic rationality had never been expressed in precapitalist societies in a way that conforms to its essence. In those societies, it was always contained and restricted (*embedded*, in Karl Polanyi’s expression) by agreements between producers and between merchants to prevent free competition on free markets. It could never be imposed on the producers so long as they were the owners of their means of production, and consequently free to determine for themselves the intensity and duration of their labour. The decline of subsistence production and the expansion of production for the market did not change anything: corporations or guilds set uniform prices for different qualities, as defined by them, and imposed these on the merchants, forbidding all forms of competition. Relations between producers and merchants were immutably contractual, and the merchants gained from the fact that they were sheltered from free market competition. The norm of *sufficiency*—sufficient payment for the artisan, sufficient profit for the merchant—was so deeply rooted in the traditional mode of life that it was impossible to obtain more intense or prolonged labour from the workers by promising them higher wages. For the worker, Max Weber writes, ‘the opportunity of earning more was less attractive than that of working less. He did not ask: how much can I earn in a day if I do as much work as possible? but: how much must I work in order to earn the wage, 2½ marks, which I earned before and which takes care of my traditional needs?’<sup>7</sup>

In Volume I of *Capital*, Marx quotes a vast literature attesting the extreme difficulty experienced by the bosses of workshops and the

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<sup>7</sup> Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, London 1971, p. 60.

first 'mechanized factories' in getting their labour to work regularly, full time, day after day and week after week. It was not enough to deprive the workers of the ownership of the means of production, as the manufacturers had already done; it was also necessary, once the artisanate had been ruined, to reduce the amount paid to the workers per product unit, so that they would be compelled to work harder to obtain their sufficiency; and to this end, it was necessary to deprive them of *control* of the means of production and impose an organization and division of labour under which the nature, amount and intensity of the labour to be provided could be dictated to the workers, presented as constraints cast into the raw material itself.

Mechanization was the ideal method of achieving this result. For means of production driven and handled by the workers, it substituted machines 'set in motion by an automaton, a moving power that moves itself . . . In no way does the machine appear as the individual worker's means of labour . . . The worker's activity, reduced to a mere abstraction of activity, is determined and regulated on all sides by the movement of the machine . . . The science which compels the inanimate limbs of the machinery, by their construction, to act purposefully, as an automaton, does not exist in the worker's consciousness, but rather acts upon him through the machine as an alien power, as the power of the machine itself. The appropriation of living labour by objectified labour . . . which lies in the concept of capital, is posited, in production resting on machinery, as the character of the production process itself.' The individual worker has become 'a mere living accessory of this machinery'; the 'value-creating power of the individual labour capacity is an infinitesimal, vanishing magnitude; the production in enormous mass quantities which is posited with machinery destroys *every connection of the product with the direct need* of the producers and hence with direct use value'.<sup>8</sup>

The best way of putting it is to say that the instrument of labour is thus rendered *inappropriate* by the worker, and that this separation of the worker from the product and separation of the worker from the labour itself, which henceforth exists outside the worker as a wordless compulsion, is built into the material organization of quantified, predetermined, rigorously programmed tasks demanding to be performed.<sup>9</sup>

It is only on the basis of this triple dispossession that production can be emancipated from the arbitration of the direct producers, can become independent of the relationship between their needs and desires, the amount of effort they are willing to make to satisfy them, and the intensity, duration and quality of that effort.

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<sup>8</sup> Karl Marx, *Grundrisse*, trs. M. Nicolaus, Harmondsworth 1973, pp. 692–5.

<sup>9</sup> I have shown elsewhere that machinery, and the science materialized in it, are also not appropriable by the 'collective productive worker' (*Gesamtarbeiter*), a term covering a multiplicity of separate, dispersed, functionally specialized collectives, rendering practically impossible a collusion between the collectives leading to control over the end product. Such control would require an organization and management which (as in the *Kombinats* of the former GDR) would reproduce the separation and dispossession mentioned above.

This triple dispossession has also led to the appearance of increasingly narrow functional specializations, the accumulation and combination in a single production process of a mass of technical and scientific skills from heterogeneous disciplines, incapable of communicating with each other and coordinating themselves, so that their productive organization requires a directing staff and a quasi-military pyramidal structure.

It is only on this basis that industrialization, the accumulation of capital, has been possible. Only by separating the direct producers from the means of production and the result of production has it been possible to make them produce surpluses beyond their needs, and to use these 'economic surpluses' to multiply the means of production and increase their power. Suppose for a moment that the industrial means of production had been developed originally by the associated producers themselves: enterprises would then have remained accessible to their comprehension and control, and they themselves would have continued to limit *both* their needs *and* the nature and intensity of their labour. In consequence, industrialization would not have resulted in concentrations whose size and complexity take them out of reach of the producers' power of arbitration. 'Economic development' would not have been able to go beyond a certain threshold, competition would have been contained, and the norm of sufficiency would have continued to govern 'metabolism with nature'.

By eliminating the power of the direct producers over, and in, production capital was finally able to emancipate production from the needs people actually felt, and begin to select or create needs, along with means of satisfying them, in accordance with the criterion of maximum profitability. In this way production has become first and foremost a *means* by which capital can grow; above all, production serves the 'needs' of capital, and it is only because capital needs consumers for its products that production also serves human needs. These needs, however, are no longer 'natural', spontaneously experienced needs or desires; they are needs and desires which have been *produced* to satisfy capital's need for profitability. Capital makes use of the needs it serves in order to promote its own growth, something which in turn calls for the growth of needs. Developed capitalism's model of consumption is thus the product of capital's own requirement to create the largest possible turnover of goods. The quest for maximum efficiency in the exploitation of capital therefore requires maximum inefficiency in the coverage of needs: maximum waste.

This autonomization of production would have been much more difficult if the workers had been able to adjust their working hours to the income they felt they needed. As productivity and wages rose, a growing fraction of the active population would have chosen, or been able to choose, to work less and observe self-imposed limits on the growth of their own consumption. This tendency did in fact re-emerge when anarcho-syndicalism was at its height, taking the form of intermittent working or the three- or four-day week practised in the Paris

metal industry, among others, by the ‘*sublimes simples*’ and ‘*vrais sublimes*’ mentioned by Poulot.<sup>10</sup>

To counter this reappearance of self-limitation in keeping with the norm of sufficiency, strict new regulations governing employment conditions were introduced in England in 1910, under which jobs were reserved for men and women who undertook to work fulltime. By making fulltime working a condition for employment, capital did not just ensure its own dominance of labour, along with predictable output and production costs; it extended its domination into the workers’ mode of life. It left no space in their lives for anything but functional paid labour in the service of capital on the one hand, and consumption in the service of capital on the other. The social individual was to be defined as a worker-consumer, a ‘client’ of capital, dependent both on the wages received and on the goods purchased. He was to produce nothing that he consumed, consume nothing that he produced, and have no public social existence outside the one mediated by capital: non-working time was to be reserved for *private* existence, for amusement, rest, holidays. The demand for reduced working hours has always been the one most bitterly resisted by bosses. They have preferred to grant longer paid holidays. For holidays are a perfect example of a programmed *interruption* to active life, a period of pure consumption, unintegrated with everyday existence, doing nothing to enrich normal life with new dimensions, to give it an expanded autonomy or a content distinct from the professional role.

### Self-Limitation as a Social Project

In complex industrial societies, it is impossible to obtain an eco-compatible restructuring of production and consumption simply by giving the workers the right to limit their effort voluntarily (in other words, the possibility of choosing their working time, the right to ‘chosen time’). There is in fact no *evident correlation* between the volume of production and the hours worked. Once mechanization has abolished this correlation by enabling more and more goods to be produced with less and less labour, ‘labour ceases to be the measure of production and working time the measure of labour’ (Marx). Moreover, the diminution in the volume of labour necessary does not benefit the potential active population in general, and does not confer emancipation or the hope of greater autonomy on either the employed or the unemployed. Finally there exists no commonly accepted norm of sufficiency that could serve as a reference for self-limitation. Nevertheless, self-limitation remains the only non-authoritarian, democratic way towards an eco-compatible industrial civilization.

This project is not absolutely insurmountable. Essentially, it signifies that capitalism has abolished everything in tradition, in the mode of life, in everyday civilization, that might serve as anchorage for a

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<sup>10</sup> See Denis Poulot, *Le sublime, ou le travailleur comme il est en 1870 et ce qu’il peut être*, Paris 1980. See also Christian Topalov’s excellent study ‘Invention du chômage et politiques sociales au début du siècle’ in *Les Temps Modernes* 496/497, November-December 1987.

common norm of sufficiency; and has abolished at the same time the prospect that choosing to work and consume less might give access to a better, freer life. What has been abolished is not, however, impossible to re-establish. But this restoration cannot be based on existing traditions and correlations: it has to be instituted; it is a matter of politics, more exactly a matter of eco-politics and the eco-social project.

An eco-social politics, as debated at length by the German<sup>11</sup> and other European Greens during the 1980s and now emerging in French political ecology,<sup>12</sup> aims fundamentally to restore *politically the correlation between less work and less consumption on the one hand, and more autonomy and more existential security on the other, for everyone*. In other words, it involves providing individuals with institutional guarantees that a general reduction in working hours will offer everyone the advantages people formerly sought for themselves: a freer, more relaxed and richer life. Self-limitation is thus shifted from the level of individual choice to the level of a social project. The norm of sufficiency, deprived of its traditional mooring, has to be defined politically.

Without going into detail on matters I have discussed at length elsewhere, I would recall here only that eco-social politics consists principally in giving a guarantee of sufficient income, independent of the duration of labour (which can only decrease), and perhaps independent of work itself; redistributing socially necessary labour in such a way that everyone can work (and work both better and less); creating areas of autonomy in which the time freed from labour could be used by individuals for activities of their own choice, including self-production of goods and services which would reduce their dependence on the market and on professional or administrative supervision, permitting them to reconstruct a tissue of known solidarities and social conviviality that would include mutual aid networks, the exchange of services, informal cooperatives, etc. The liberation of time, the liberation of individuals from heteronomous, functionally specialized labour, should be conceived as an overall politics that would also demand fundamental new thinking on architecture, town planning, public equipment and services, relations between town and country, and so on, in order to de-compartmentalize the different spheres of life and activity, and encourage self-organized exchange.<sup>13</sup>

Political ecology thus uses ecologically *necessary* changes to the mode of production and consumption as a lever for normatively *desirable* changes in the mode of life and in social relations. Defence of the *living environment* in the ecological sense, and the reconstitution of a

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<sup>11</sup> I cite here only four works containing extensive bibliographies: Michael Opielka (ed.), *Die Ökosoziale Frage*, Frankfurt 1985; Joseph Huber, *Die Regenbogen Gesellschaft. Ökologie und Sozialpolitik*, Frankfurt 1985; Michael Opielka, Georg Vobruba (eds), *Das garantierte Grundeinkommen*, Frankfurt 1986; Michael Opielka, Ilona Ostner (eds), *Umbau des Sozialstaats*, Essen 1987.

<sup>12</sup> See, notably, *Les Verts et l'économie* (Gentilly 1992; Green party document), the periodical *Transversales Science Culture*, and works by Guy Aznar.

<sup>13</sup> On this subject, see Nordal Akerman, *Can Sweden be Shrunk?* Development Dialogue 2, Uppsala 1979.

*life-world*, condition and support one another. Both require life and the living environment to be withdrawn from the domination of economics; both require the growth of spheres of activity to which economic rationality does not apply. This requirement, in truth, is as old as civilization. From the anonymous Ricardoite whose 1821 pamphlet Marx so enjoyed quoting to Keynes and Leontieff, the leading theoreticians of modern economics have all held *disposable time* for activities 'valued as an end in themselves' (*die sich als Selbstzweck gilt*, in Marx's term from the *Grundrisse*) to be 'the true measure of wealth'. This boils down to saying that economic activity has meaning only if it serves something other than itself. For economics is a clear example of 'cognitive-instrumental reasoning': a science for calculating the effectiveness of means, and selecting the most effective means to achieve a given end. It cannot be applied to ends which are not distinct from the means employed, and cannot in itself determine what ends should be pursued. When it is not supplied with an end, it chooses those ends for which it possesses the most effective means: it will adopt as a target the expansion of the sphere in which its own rationality applies, and will tend to subject to this sphere all others, including life and the natural foundations of life.

This predominance of economic rationality over all other forms of rationality is the essence of capitalism. Left to itself, it would end by extinguishing all life and would thus itself become extinct. If capitalism must have a meaning, that meaning can only be the creation of the conditions for its own suppression. The suppression of capitalism should not be taken to mean the suppression of economically rational management of enterprises—management, that is, with a view of maximum yield per unit of fixed and circulating capital—but should be understood as the relativization of the criterion of maximum yield in relation to criteria of a different order, extended into the management and creation of enterprises. When these other criteria become predominant in public decisions and individual conduct, when economic rationality is assigned a subordinate role in the service of non-economic ends, then society will have emerged from capitalism and founded a different civilization.

Classical class analysis cannot provide an answer to the question of what social forces would be capable of achieving these transformations. There is no central front where a decisive victory can be obtained through class confrontation. To put it another way, the front is everywhere, because the power of capital is exercised in diffuse fashion in every area of life. But it should also be recognized that the 'change in mentalities', the 'mutation of values' (*Werteswandel* as the Germans call it), cuts across all classes and levels of society including the working class and the governing segment of the ruling class. 'Green' trade unions and trade unionists already exist (notably in Britain and Holland), although the industrialist ideology of growth and compensatory consumption is still predominant in the traditional working class. Even so, a majority of wage-earners say they would rather have more free time than higher wages, and a very large majority, even among senior managers, say they think leisure-time activities are more important to them than their professional work. For a very

large majority, work—whatever its level of complexity—involves skills that are too specialized, and cultural resources that are too impoverished, to supply meaning to their lives. Finally, there exists in the directing or managerial class a modernist element that favours ecological conversion of industry and of the development model, not just to steal a march on the competition by occupying the high ground of the future, but because it realizes that the North's model of industrialization and consumption cannot be maintained even in the North, let alone exported to the South; and that in the absence of ecological conversion the dislocation of natural cycles, of civilizations and societies, will cause humanity to collapse into barbarism. A few limited disasters, portending the approach of major catastrophes, may be sufficient to speed up the socio-cultural mutation now taking place and make societies lean in the direction of political ecology.

*Translated by John Howe*