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PROLEGOMENA TO A FUTURE
ECOLOGICAL HUMANISM

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# THE REVOLUTION OF QUALITY

## PROLEGOMENA TO A FUTURE ECOLOGICAL HUMANISM

By

Claude Georges Vasquez

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Fisheries and Wildlife
(Resource Ecology and Environmental Education)

1980

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ABSTRACT

THE REVOLUTION OF QUALITY
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By

Claude Georges Pasquini

Based upon the assumption that humanity has entered an economic, socio-developmental, ecological and psycho-behavioral impasse, this work starts off with an attempt to elucidate the actual state of human affairs and to contrast it with an ideal one. It then sketches a history of Western thought, the understanding of which is deemed to be essential to come to grips with the contemporary problematic world situation. After mapping out the salient characteristics of a particular thought pattern termed "epistemological rationality" which is regarded as having led humanity into its present impasse, this work delineates a historical framework of "psychological rationality" relevant to its vision of an ideal human condition. Both kinds of rationality are found to be incomplete, at odds with and independent of each other. It is argued that a different sort of economic system, social evolution, ecological and psychological behavior could have and still could come about, if both types of rationality came to be grasped as evolutionarily and inseparably linked versions of one and the same human experiential

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continuum. It is concluded that cultural change is indispensable and that the conceptual basis and means for such a change need to be elaborated.

This work then proceeds to clarify the myth of the detachment of the symbolic from the symbolized. It dissolves this illusion of detachment under the light of the philosophy of quantum physics, exposes the limits and defects of allegedly "pure" epistemological rationality, rejects the notion of the value-neutrality of science and unravels the esthetic/ethical assumptions inherent in the psychic style of doing methodological science. It argues that in order to realize the "integrated wholeness of human experience," the human experiential split between psychological and epistemological rationality needs to be transcended towards a psycho-epistemological experiential One. It is found that the development of a human psycho-epistemological reality experience requires not only an awareness of the conditions of adequacy for the integration of a revised psychological as well as a revised epistemological rationality, but also a close-up view of the relationship between language, thought, culture and reality experience. This leads to an elaboration of the relationship not only among such abstract-theoretical concepts as core and marginal culture, cultural paradigm, language and reality as well as among such concrete-practical concepts such as cultural activity, communication, expression and problem-solving, but also between the former and the latter. The making of psycho-epistemological languages, cultural activities and reality

experiences is sketched and the importance of de-specialization for the coming about of a transcendental rationality is stressed. It is maintained that the envisioned psycho-epistemological synthesis must ultimately take place within human individuals' experiential reality whence it must be brought to bear upon their culture.

The envisioned personal transformations and cultural change need to be guided, so it is argued, by the standard of quality. After it introduces a distinction between the process and the content of human reality experience, this work lays out the difference between impure and pure quality experiences and comes to regard the latter as the sole cognitive and the best practical principle to guide human self-actualization efforts towards transcendentally rational ecocommunities. It then provides a metaphysical framework which allows an understanding of why pure Quality experiences are the crucial standard in the making of ecocultures.

This work concludes by pointing the way to a future Ecological Humanism which is to be actualized from within the Revolution of Quality.

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To

Gino Pasquini

and

Helène Schroeder

"Pour m'avoir rendu possible

ma vie intellectuelle et mon loisir."

DECLARATION

Je déclare l'état de bonheur permanent
Et le droit de chacun à tous les privilèges
Je dis que la souffrance est chose sacrilège
Quand il y a pour tous des roses et du pain blanc

Je conteste la légitimité des guerres
La justice qui tue et la mort qui punit
Les consciences qui dorment au fond de leur lit
La civilisation au bras des mercenaires

Je regarde mourir ce siècle vieillissant
Un monde différent renaitra de ses cendres
Mais il ne suffit plus simplement de l'attendre
Je l'ai trop attendu je le veux à présent . . .

Georges Moustaki

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# PART ONE

## HUMAN AFFAIRS: ACTUAL AND IDEAL

# I. INTRODUCTION

## 1. A Problematic Situation

> A problem exists when an indeterminate situation, present or projected, is regarded as unsatisfactory and a more satisfactory alternative situation is sought.
>
> Glenn L. Johnson
> and Lewis K. Zerbyl

The failsafe solution to any problem is not to create one. Judged by humankind's record of activities, however, this panacea seems to be antithetical to our species' extraordinary propensity to think, to explore, to create, to interpret and to transform itself and the world at its discretion. Most of us like to think that humankind has come a long way, that is has made enormous progress in the growth of its knowledge and its educational opportunities, and that its economic enrichments have freed it from destitution to thrust it beyond the necessities of subsistence living into the realm of boundless creativity and the leisurely pursuit of happiness. On its evolutionary path, humanity often faced and overcame problems only to tackle newer ones and/or to challenge old ones in a new light. Indeed, the history of humans seems to indicate that problems and the effort to solve them are characteristic of our species.

We may grant the view that any non-human animal and any plant species is inadvertently problem creating and problem solving, but

then we also hasten to point out that, in contrast to them, we are not so much creating and adapting to problematic environmental situations according to the impersonal mechanisms of natural selection as we are consciously avoiding, opposing, resisting and attempting to overcome a natural environment which, so we tend to think, is pitched against us (and we against it) and thus is the source of a great many, if not of all, our problems. Moreover, we tend to presume that to us as well as to both non-human animals and plants the environment poses the problems, and we are convinced that, given a clear and complete scientific understanding of the structure and functioning of the natural environment, we will be able to eliminate the natural environment as a source of our problems by shaping it to our needs and aspirations. In short, we often tacitly assume that the environment creates the problems which we are to solve. This, however, is a wrong-headed view, for it is we who create our problems. How so and what are our problems?

If we hold that on a social level humankind's problems may be epitomized by such notions as social injustice, unequal economic relations, political instabilities, environmental degradations and resource scarcity, and if we regard guilt, fear, discontent, disorientation, alienation, meaninglessness, loneliness and unhappiness as denoting some problems on the individual human level, then we may say of these problems that they are not unique to contemporary humankind. Indeed, during the latter part of human history, in which there has been a steady overall increase of scientific knowledge, such problems have desultorily varied in kind, origin, extent, meaning and impact.

But so have the concepts of tradition, compromise, right, tolerance, equality, altruism, truth, freedom, happiness and self-actualization. And thus there is no reason to believe or to hope that an increase in our scientific knowledge of our natural environment will be proportional to a decrease in the number of problems humans have to face and, concomitantly, to an increase in human happiness, freedom and unproblematic peace.

On the contrary, despite our increased scientific knowledge of our natural environment, our social and personal problems have reached an order of complexity, intensity and interdependence, which may very well preclude any thoroughgoing solutions. Greater scientific knowledge gives us a clearer and completer understanding not only of the natural environment, of the problems nature presents us with and of needed answers, but also of its own incompleteness and limits as well as of its inadequacy to solve practically our social and individual problems. What else then, if not a greater scientific knowledge of our presumably inimical natural environment, would be more likely to help solve our problems? What else then should we turn to, if not to the natural environment?

Assuming that we are, as the history of humanity seems to indicate, not only solving problems but also creating them, it seems reasonable to turn to ourselves and to our knowledge of ourselves in the hope of finding a more practically workable knowledge and a more likely source of our problems. For, is it not we, who have characteristically presumed that a clear and complete scientific

understanding of the structure and functioning of the natural environment will entail the dissolution of all problems? Based on this false premise, we have been inquiring in the wrong direction and, as a result, an increased scientific knowledge and its practical extension, technology, have failed to solve or even to considerably diminish the social and individual problems we are concerned about. On the contrary, our near-exclusive reliance on science and technology may very well have spurred the complexification, institutionalization and psychological internalization of our problems. If this is indeed the case, then it becomes clear that we need to refocus our attention away from the natural environment onto ourselves, the creators of our problems, and away from our scientific knowledge onto a different mode of knowing.

If we are able to create problems, then we may assume that we are also able to avoid creating problems. If, indeed, humankind creates problems and then attempts to solve the problems it creates, we may be justified in wondering about the intelligence and moral fiber of what is often kindly called homo sapiens. We are, then, faced with two possible interpretations of humanity: either it is sensible and morally sensitive or it is not.

If we wish to interpret humanity as insensible and morally insensitive, we ought to have no difficulty at all in gathering supporting evidence for this view in our contemporary daily personal life-styles and in the sociopolitical behavior of nation-states. In almost any society humans discriminate against each other according

to age, sex, race, belief, profession, economic status and intelligence; many countries develop highly refined military gadgets to slaughter each other by the millions; we destroy and poison, helter-skelter, the biogeosphere, the health of which we are so dependent upon for our survival; in modern societies concrete and plastic replaces the natural-organic; we increasingly feed on synthetic vitamin-enriched victuals replete with cancer-causing additives; we mindlessly toil in uncreative jobs in exchange for pieces of paper and metallic coins with which we can buy products with built-in obsolescence; we let ourselves be entertained by the great spectacle of machines and confound leisure with the passive submission to our artificially induced consumptive needs. These slightly cynically formulated illustrations are, of course, generalizations which do injustice to a great many of humans to whom, for whatever reason, these examples do not fit. Nevertheless, for many, these samples of human behavior stand for innumerable other ones and count as evidence for the insensibility and moral insensitivity of at least one portion of humankind.

If, on the contrary, we wish to interpret humanity as sensible and morally sensitive, we can argue that most humans are reasonable and creative individuals working wholeheartedly for the improvement of humankind's lot and pursuing love, beauty, freedom and happiness. This view leads us to ask why, despite the good intentions of the majority of humans, we still have wars, prisons, laws, criminality, mental institutions, riots, revolutions, economic and political imperialism, cultural colonialism and widespread famine and disease. These

problems still await satisfying, thoroughgoing solutions, rather than vicarious and verbal patchwork treatment. An additional question would have to be answered: why does an allegedly sensible and morally sensitive majority of humanity let a purportedly insensible and morally insensitive minority be so influential and powerful that the latter sets the pace for an economic, technological and political development which threatens to eradicate all of humankind by nuclear war, chemical poisoning and/or economic asphyxiation?

As much as the statement that humanity is insensible and morally insensitive is a generalization which does injustice to a great many humans who are sensible and morally sensitive, so the assertion that humankind is sensible and morally sensitive includes and covers up a great many humans who, by my standards, are insensible and morally insensitive. People who believe that preparing for war (rather than preparing for peace) is the necessary condition for peace and who can feel safe only when surrounded by nuclear weapons and nuclear reactors, may be viewed as intellectually aberrant and morally feeble. Humans who bridle, schedule and channel their vitality and passions according to a clock could count as self-negating. Individuals who measure their personality growth by the size of their bank account and automobiles, by the number of their academic degrees and lovers may be regarded as severely impaired in their discriminatory capacity as to the distinction between quality and quantity.

Who is sensible and morally sensitive and who is not? Has humankind always been either one or perhaps both? The answer to these queries may be impossible to come by, because of the vastly

divergent points of view, standards of evaluation and expectations which one can adhere to. Rather than attempt to reply to these questions, we shall ask ourselves how come humans are creating problems.

There may be three reasons for the existence of human problems. First, humans may act deliberately so as to create problems. In this case, they are conscious of the consequences of their acts which they envision to be problematic. Second, they may act unconsciously in utter ignorance of the effects of their behavior which may prove problematic. And third, humans may act deliberately without envisaging the problematic sequels of their conduct.

That there are grave social and individual problems which beleaguer humankind cannot be doubted but by the mentally and morally numb. That humans would deliberately create such problems could imply that they either create them in order to have riddles to solve (to keep their minds busy, as it were, even if the problems they create are not solvable) or that they, in whatever way, profit from creating problems. Albeit such a view may be partially correct, it seems improbable to me that humanity would find deep satisfaction in consciously creating problems, especially when the sort of problems we are concerned about engender fear, guilt, pain, disease, death and humiliation. And while it is quite possible that some of our problems ensue from some unconscious behavior, I believe that it is more likely that humans create problems preponderantly by virtue of a lack of foresight, that they act deliberately without envisioning the problematic consequences of their conduct.

If the latter is the case, then the coming about of our social and individual problems may be regarded as the result of our acting without a critical consciousness of our place in the natural environment, of our role in shaping it and of our being affected by it. Socially and individually we may be said to act in inadvertence. Inadvertence is a feature of an uncritical consciousness; it is a feature of a consciousness which does not analyze itself, which does not question itself.

If we are the inadvertent creators of our problems and if we want to solve them, then we will have to understand the mechanisms by which we become and remain the inadvertent creators of problems. What I shall mainly be concerned with in Part One is a description of the problematic situation of humankind and a sketch of what a problem-freer humanity ought to look like. Should we become convinced to embark upon a program for social and individual change this sketch shall be indicative of such a program.

I shall assume that the reader will have come to see that of all our problems our consciousness is the biggest. Our consciousness is the crucial problem in that it is responsible for most, if not all, our social and individual problems. The presupposition that the natural environment is the major source of our problems is simply mistaken. It is we who are the major source of our problems; more precisely, it is our consciousness, our way of looking at the natural environment and at ourselves in relation to it, which is problematic. A critical analysis of our consciousness as well as a search for a

more problem-oriented way of knowing may lead us onto alternative paths of problem-solving. With regard to the failure of scientific knowledge and technology to handle our social and personal quandaries, it becomes essential that we seek alternative approaches to our problems, provided we regard our present and projected indeterminate social and personal situation as unsatisfactory. Only thus can we hope that maybe one day we shall metamorphose from inadvertent creators of problems into self-critical individuals who opt to perfect their problem solving ingenuity as well as to put an end to the unnecessary creation of social and personal problems.

## 2. What's the Problem?

> The philosopher, as logician, is concerned with meaning and clarity as well as consistency, and therefore [s/]he is well qualified to impose these qualities on the statement of a problem and its possible answers.
>
> Glen L. Johnson and Lewis K. Zerby[2]

As I suggested in the preceding chapter, our uncritical consciousness and our exclusively science-oriented modes of knowing are at the root of our social and individual problems. But this is too general and too superficial a diagnosis. Before we can embark on the pursuit of alternative approaches to our problematic situation, we must become clearer on the actual mechanisms which prevent us from becoming more critical and from assuming different modes of knowing. Only when we clearly and consistently analyze the interconnections among the economic, the socio-developmental, the ecological and the

behavioral patterns of contemporary humankind, will we be able to undo the fetters of our uncritical consciousness to liberate ourselves for meaningful solutions of our problems. In the following chapters I shall therefore seek to pinpoint those social and individual patterns which appear to be most characteristic of our contemporary problematic situation.

Since "human problems cannot be solved without reference to values"[3] I will have to expose and evaluate the underlying value-system of these problematic patterns in terms of yet another value system: my own. What this means is that I will forego our conventional and uncritical scientifically-oriented approach to problem solving in favor of an unorthodox and critical value-oriented approach to problem solving. The scientifically-oriented mode of problem-solving does not address itself to values and hence cannot adequately solve riddles of the sort I am concerned about. It will then be the responsibility of the philosophers and not of the scientists to critically study the value-system which has led to our contemporary problematic situation, to propose values which offer meaningful alternatives for the solution of our social and individual problems and to outline a program which would concretely contribute to their elimination.

What I am aiming at is not a phony and verbal patchwork approach to rebuilding our individual and social lives, but a thorough-going transformation of our passive inadvertence into a radically active and critical consciousness. "Survival" will soon become the

key concept to imbue our thinking patterns and our daily behavioral routine. It will, then, become increasingly obvious that the proliferation of remedies, palliatives, incentives, jaundiced planning, lopsided proposals, partial solutions, quantitative and qualitative impact assessment methodologies, and past- and present-based forecasting techniques, in view of an amelioration of the human condition, is lacking an underlying, unifying and comprehensively integrated moral and esthetic philosophy. Moral and esthetic quality will become crucial survival values in our struggle to handle our social and individual quandaries.

In the following chapters I shall attempt to elucidate my contention that humanity has reached an economic, socio-developmental, ecological and behavioral impasse. Furthermore, I shall point to the frontier for a humanistic expansion, i.e., for a full self-actualization of individuals and societies within a well- and fully-functioning environment, which is still a long way off.

I may now reformulate my answer to the title question of this chapter: the problem is to get us out of the social and individual impasse into which our inadvertence and scientific mode of knowing have led us and to free ourselves for the pursuit of meaningful humanistic goals: the solving of our problems and the creation of a self-actualizing humanity.

Yet, before we can see our way to make any practical improvements of the human condition, we have to delineate clearly the problem to be overcome as well as the alternatives to be sought. I shall

therefore proceed as follows: first, I shall conceptually distinguish four areas of concern, four indicators which seem to me to point to a trenchant need for social and individual change. They are, in the order in which I shall treat them: (1) the economic indicator, (2) the socio-developmental indicator, (3) the ecological indicator and (4) the psycho-behavioral indicator.

The relationship between an economic system which has gone technological and the social structure of Western societies shall be our economic indicator while the interaction between industrial and non-industrial nations in the light of their social development shall serve as our socio-developmental indicator. I shall regard the connection between our social and our natural environment as our ecological indicator and the human psyche within the context of our everyday behavioral affairs as our psycho-behavioral indicator.

For reasons of simplicity and clarity I shall isolate these four areas of concern which in actuality are inseparably and intricately interwoven. I think of them as symptomatically manifesting our problematic situation.

I shall treat each indicator under two aspects: (a) the aspect of what there is, and (b) the aspect of what there ought to be. Under the aspect of what there is, I shall try to elucidate in a descriptive and explanatory fashion the underlying values of what there is. Then I shall, in contrast, sketch my values and what, in line with them, ought to be.

With my general intentions for this Part One made clear, let us have a closer look at what there is and what there ought to be.

## II. WHAT THERE IS AND WHAT THERE OUGHT TO BE

### A. The Economic Indicator: The Techno-Economic Industrial State

#### a. What There Is

> That one need never look beyond the love of money for explanation of human behavior is one of the most jealously guarded simplifications of our anthropology.
>
> John Kenneth Galbraith[1]

#### 3. Planning and Producer Sovereignty

> For a public official to be called an economic planner was less serious than to be charged with Communism or imaginative sexual perversion, but it reflected adversely nonetheless.
>
> John Kenneth Galbraith[2]

Capitalism and communism may very well be the two great delusions of our political consciousness. The former is usually associated with free market and free enterprise, whereas the latter evokes rigid planning and coerced submission to the dictates of the state. As much as contemporary communist societies are planned and ruled by a bureaucratic elite, so the social relations between classes within and the economic development of our contemporary high-technology (i.e., capital- and energy-intensive technology), "capitalist" societies are shaped and ruled by planning, and not by free market forces and entrepreneurial spirit.

Indeed, we Western "capitalists" are living, appearances to the contrary, in what Galbraith would call "new industrial states" in which, according to him, the "market system" is recessive and the "planning system" dominant.[3] The great corporations have relegated the free-ranging entrepreneur, seeking to reap maximum profit from a sovereign consumership, to a humble and minor role. Indeed, the maximization of pecuniary return is only one part of the much larger complex of a corporation's organizational interests which include the aim "to insure that the goals of the larger community and state will be sympathetic to its own. This involves an exercise of power far more important than is possible if the firm is confined by its pursuit of profit."[4]

Large corporations are not subordinate to free market mechanisms; they dominate or they make the market subordinate to themselves. They fix prices and wages in collaboration with each other or with the government and they accommodate consumer behavior to their needs. This is to be expected, for once a capitalist (or communist) society becomes industrialized, it turns into a highly organized, bureaucratic system in which the decisive power is exercised by organization and not by private (or social) capital.[5] For capitalism and communism alike "the imperatives of technology and organization, not the images of ideology, are what determine the shape of economic society."[6]

Bureaucracy goes with planning; planning goes with security. The great corporations forego maximum profit for a security which is planned. Galbraith concedes that there may be consumer sovereignty

within the "market system," i.e., within the world of the small firms, where there is, if at all, planning in response to market mechanisms, and finds that "market firms"[7] are often poor, whereas "planning firms"[8] are rarely so. The "planning firms," i.e., the large and wealthy corporations, make up the "planning system" which involves what we would "identify with the modern economy. It is where the great organizational and technological change occurs. It is the part that shapes our beliefs and values."[9]

It should not be difficult to conclude, then, that in the modern economy of the new industrial state the consumer's power is recessive and that the producer's sovereignity, indeed, is supreme.

What does producer sovereignity consist of? How did it come about?

The increased sophistication of machines and computer technology greatly enlarged the lapse of time between the decision to produce a salable product and its emergence for marketing. It demanded high capital investments, performance oriented inflexibility, specialized skills, brain-power and a complex organization, all of which lead to the need for the "stabilization of aggregate demand," i.e., for planning demand.[10]

Since "it is a feature of all planning that, unlike the market, it incorporates within itself no mechanism by which demand is accommodated to supply and vice versa,"[11] demand in today's industrial state is either artificially and subliminally induced in the consumer mass society by the producers' massive advertising campaigns or is

contracted from the government's military and public service agencies. In either case, demand is, if not under perfect control, at least strongly regulated so as to minimize the risks for the producers' heavy advance commitments of money and time. The more affluent a society, the greater the need for stabilizing demand; for a rich society allows for saving by the wealthy who therewith become more flexible as to their consumption behavior. By the same token and fortunately for the producers however, the affluent become more malleable with regard to their needs and hence a much easier target for need manipulation than the destitute whose demands are predictable from and shaped by their genuine physical needs.[12]

## 4. Techno-Economics

> It is a commonplace of modern technology that there is a high measure of certainty that problems have solutions before there is knowledge of how they are to be solved.
>
> John Kenneth Galbraith[13]

Machines, according to Galbraith, are not only replacing crude manpower, but also the cruder forms of intelligence.[14] He warns us "that we are becoming the servants in thought, as in action, of the machine we have created to serve us,"[15] and that we should not "allow economic goals to have an undue monopoly of our lives and at the expense of other and more valuable concerns. What counts is not the quantity of our goods but the quality of life."[16]

In the new industrial state, however, what counts is planning and that is not democratically decided upon by the consuming masses, but expertly determined by high-technology corporations, the policies

of which are often viewed as being shaped, if not completely, so at least partially, by a technological progress deemed independent of economic realities. That, however, technology is not a self-initiating, self-perpetuating, self-expanding and self-perfecting deterministic mechanism, I shall discuss in more detail in Part Two. Suffice it to say for now that the economics of the industrial state is a technology-based and technology-oriented economics, which I shall term a techno-economics. The enemy of the "market firms" is not communism, but techno-economics.

Underlying techno-economics is a philosophy of limitlessness. According to Mumford it holds as its most crucial postulate that humanity's all-important mission is to conquer nature, to command time and space, to remove all the barriers to human acquisitiveness and to found the state of automation.[17] In the techno-economic state "there is only one efficient speed, faster; only one attractive destination, farther away; only one desirable size, bigger; only one rational quantitative goal, more."[18] The philosophy of techno-economics is devoid of concepts like "enough," "quality," "durability" or "emotional value"; it is a philosophy of growth for growth's sake. And growth for growth's sake happens to be the philosophy of the cancer cell.[19]

## 5. Land, Labor and Capital Revisited

> Power goes to the factor [of production] which is hardest to obtain or hardest to replace.
> John Kenneth Galbraith[20]

According to Galbraith traditional economics is concerned with four factors of production: land, labor, capital and the entrepreneurial talent which makes these work together.[21]

Before the rise of industrialism power in society was associated with those who owned land.[22] Agricultural production was little mechanized, labor-intensive and accounted for a large share of all production.[23] With the industrial revolution, land lost its importance. Entrepreneurs were in dire need of capital and the new factories offered prodigiously expanding opportunities for capital investment.[24] And thus capital, according to the introductory quote, became the power yielding factor of production. With the increasing affluence of industrial societies, however, the power of capital, which may be said to have reigned over the last two hundred years, declined. Especially, over the last few decades, a new need arose: the need for complex organization, the need for "organized intelligence."[25] Labor, land, capital and entrepreneurial talent were abundant; they were neither hard to obtain nor hard to replace. What was rare was organized intelligence. Galbraith's rule holds, once more, if we accept that there is still something powerful in the contemporary industrial state and that the something must be a new factor of production: organized intelligence or what he also calls

the technostructure. With the rise of the new industrial state, power gradually shifted from capital to organized intelligence. "This shift of power has been disguised because, as was once true of land, the position of capital is held to be immutable. That power should be elsewhere seems unnatural and those who so argue are in search of frivolous novelty."[26]

What is remarkable is that of all five factors of production, labor never wielded any power. In nominally capitalist and nominally communist societies, labor may have an influential say as to its working conditions, wages and all sorts of fringe benefits, but as to its role in planning capital investment and organizing the technological production patterns, it has only minimal, if not zero, power. In the new industrial state, power is in the hands of the technostructure. And it is, to quote the title of Berle, Jr.'s book, a "power without property."[27]

## 6. Technostructure and Technocracy

> Modern economic society can only be understood as an effort, wholly successful, to synthesize by organization a group personality far superior for its purposes to a natural person and with the added advantage of immortality.
>
> John Kenneth Galbraith[28]

The technostructure is the organized intelligence of the high-technology "planning firms." It "is the organization of technicians to plan and carry out production with high technology. Such decision making and oversight is done largely by groups of specialists that are selected and directed by management."[29]

In the technostructure decision-making is a group process. The modern planning firm has no, or little, room for competitive, unreliable and individualist entrepreneurial genius; it draws on predictable, cooperative, conforming specialists. The "common public impression, not discouraged by scientists, engineers and industrialists, that modern scientific, engineering and industrial achievements are the work of a new and quite remarkable race of [people],"[30] is thoroughly mistaken. Vain are they who credit their personal imagination for such feats, when, in fact, the dazzling successes of modern science and technology are the work of ordinary people, who are narrowly and deeply informed, then organized so as "to have their knowledge combined with that of other specialized but equally ordinary [people]. This dispenses with the need for genius. The resulting performance, though less inspiring, is far more predictable."[31] Moreover and in contrast to an individual, the technostructure is not only more predictable but also more invulnerable.

Decisive power resides neither in the management nor in the stockholders of a large corporation, but in its technostructure. While in nominally capitalistic economies the technostructure is an integral part of the private corporation, it is, in the Soviet economy, an integral part of the state.[32] Nevertheless, as Palmer notes, "if an intelligent observer from Mars or Venus could come and examine all large contemporary industrial concerns--public or private--as working enterprises, he would notice . . . only their overwhelming sameness."[33] For, in both a "nominally" capitalist and a "nominally"

communist techno-economical system, the technostructures require planning autonomy as well as the supersession of market and consumer sovereignity. In addition, aggregate demand has to be stabilized and a constant source for trained specialists has to be assured. And it is precisely these trained specialists who remove the technostructure and its power far from social control. For the masses have become dependent on what Roszak terms "the citadel of expertise,"[34] the sum total of technostructural experts which dominate "the high ground of urban-industrial society, exercising control over a social system that is utterly beholden to technician and scientist for its survival and prosperity."[35]

The citadel of expertise is the abode of "the great paradox of the technological mystique" namely the technostructure's "remarkable ability to grow strong by virtue of chronic failure."[36] If the new industrial state ever became a perfectly automated social machine, the technostructure would lose its raison d'être. Hence the expert's allegiance to technological fixes which do not ultimately remove problems but only breed more of them to replace those that are solved. More problems require more experts, more experts devise more technological fixes which in turn generate even more problems. Seen from the technostructural platform, this positive feedback relationship is not at all vicious but virtuous since it renders the expert increasingly indispensable and the citadel of expertise larger and more impregnable. From the angle of an industrial citizenry lulled into the blind acceptance of what it has been bluntly or subliminally

persuaded to regard as technological progress and which, in fact, is but the result of the technostructure's ceaseless survival struggle, technological fixes may at first have seemed quite necessary and unavoidable. Yet, as people come to unveil the technostructure's sedulous and successful attempts at devising strategies meant to exploit their gullibility, they also are liable to plunge themselves into despair, for they have little economic autonomy to fall back on. It is at this point that they realize that their cherished democracy is a farce, that it has been replaced by a new elitist politics, a "technocratic politics,"[37] which is run in line with the technocratic dictum that science and technology are the nec plus ultra for a human progress which has come to require the unconditional surrender of the public at large to the needs, values and goals of the technostructures.

This surrender, however, is not forced upon the masses by the technostructure, nor do the former experience it to be so. Rather, it is smoothly and inconspicuously behaviorally engineered by technostructures, at least as far as capitalist countries are concerned. The "suave technocracy," as Roszak calls it, "is the ultimate expression of a mature, administered capitalism, whose corporate structure has been so skillfully woven into the fabric of public life that it is impossible to imagine there was ever a time when [corporations] did not exist."[38] In contrast to the suave technocracies which, in dealing with dissent, have "learned to substitute the absorbency of the sponge for the brute force of the truncheon" and which know "how

to accommodate much divergence . . . without significantly redistributing power or changing the direction of mainline social policy,"[39] the "vulgar technocracies" of communist societies rely on "ponderous social controls coupled with an unrelenting ideological hard sell."[40]

Collectivist or individualist, the new industrial states are not democracies but technocracies in which authority and hence power gravitates not to the people but to the citadel of experts "who customarily legitimate their authority by appeal to the supposedly value neutral method of science."[41] Within the walls of the citadel of expertise the idolatry of operational truth reigns supreme and ethics is but a decorative make-believe to the vital reality of algebraic formulas, statistical extravaganza and progresso-technological chimera.

## 7. Technocratic Selfishness

> Much of what is believed to be socially important is, in fact, the adaptation of social attitudes to the goal system of the technostructure.
> John Kenneth Galbraith[42]

Technocrats are members of a technostructure who coordinate their organization skills and technical expertise to serve what appears to be the goals of their corporation and the society of which they are a part. Galbraith distinguishes four kinds of motivation which lead an individual to subordinate his/her purposes for the "higher" purposes of the technostructure: (1) compulsion, (2) money, (3) identification, and (4) adaptation.[43]

Compulsion is an externally and forcefully induced motivation by which an individual denies his own goals for the goals of the corporation. Still important in vulgar technocracies, it is almost extinct in suave technocracies. Money as an alluring motivating force needs no further comment. In identification, an individual is associated with a group, the goals of which may appear to him/her as superior to his/her own. In adaptation, an individual pursues the goals of the technostructure in the hope and intent and with the prospect of accommodating these goals more closely to his/her preferences. All four motivations may be at work in mutually reinforcing, neutralizing and diminishing combinations, in what Galbraith calls the "motivating system."[44]

Over the last centuries, the major motivating force has varied with the most powerful factor of production: while compulsion tended to be associated with land and money with capital, identification and adaptation came to prevail with the making of technostructures.[45] While both identification and adaptation are more characteristic of the technostructure of a corporation, identification, compulsion and money may be regarded as the major motivational forces for the production workers and the white collar routine personnel, whereas the typical stockholder's motivation is exclusively pecuniary gain without loyalty to any corporation.[46]

Although a corporation and its technostructure do respond to social attitudes, they however are playing a much more crucial role in imposing them. How so? The answer comes in two parts. First,

the mechanics of the motivating system almost inevitably lead the technostructures to impose social attitudes. And second, the corporations can afford and do not hesitate to avail themselves of the strategies of mass persuasion.

As to the mechanics of the motivating system there is a symmetry between individual, corporate and social goals. Since from individual through corporation to society at large there runs as a parallel thread the presence of adaptation as a motivating force,[47] it is easy to see that what's good for an individual is likely to become what's good for a corporation and that what's good for a corporation is likely to become what's good for society at large. By this process of adaptation social purpose becomes what serves the goals of the technocrats.[48] And since "social goals, though in fact derived from the goals of the technostructure, are believed to have original social purpose,"[49] they and the social attitudes that accompany them are not experienced by the technocrats themselves nor by society at large as imposed by the technostructures. And thus it is almost inevitable that the individual members of a corporation, and especially the technocrats, "are able to identify themselves with the corporation on the assumption that it is serving social goals when, in fact, it is serving their own. Even the most acute social conscience is no inconvenience if it originates in one's own conscience and is identical therewith."[50]

From this point of view technocrats are not selfless social-minded individuals, but selfish and suave mass persuaders.

## 8. The Effluent Society

> Even minor qualities of unimportant commodities are enlarged upon with a solemnity which would not be unbecoming in an announcement of the combined return of Christ and all the apostles.
>
> John Kenneth Galbraith[51]

For the technocrats, mass persuasion is the most valuable tool to assure the stabilization of aggregate demand and thus their own survival. Mass advertising, which is not so much the art of selling goods as it is the control or management of those who buy goods, has itself become an important and rapidly growing industry.[52] The power of the technostructure has its correlate in the willingness of reliable consumers to buy what is produced. Since most of what is produced becomes less and less needed, advertising has to compensate with increasingly overpowering meretriciousness.

"Goods that are related only to elementary physical sensation --that merely prevent hunger, protect against cold, provide shelter, suppress pain--have come to comprise a small and diminishing part of all production."[53] Thus, new needs are fabricated, calculated to be satisfied by goods which, once yours, give you a feeling of personal worth, prevent you from thinking, "serve sexual aspiration, promise social acceptability, enhance [your] subjective feeling of health, well-being or orderly peristalsis, contribute by conventional canons to personal beauty, or are otherwise psychologically rewarding."[54] A perusal of the marketed products (from the remote control gadgets for panchroidiotic TV-sets to honeysuckle-perfumed toilet paper) will

reveal that most of them might at best scaffold the personality structure of colorless individuals.

Built-in obsolescence quite often characterizes the ever increasing effluence of "new" products from the factories and laboratories of the new industrial state. "In a culture which places high value on technological changes, there will be a natural presumption that any 'new' product is inherently superior to an old one."[55] This encourages a sales strategy which devises "a great many changes in product and packaging . . . merely for the sake of having something that can be called new. We have here the explanation of the repetitious claims in virtually all advertising that products are new."[56]

The shorter the "usage expectancy" of a new item, the higher its quality for assuring the expansion of sales and thus the survival of the corporations. Their short usage expectancy notwithstanding, the new items are offered to be profoundly indispensable. From every conceivable angle products are analyzed for their selling points which "are then described with talent, gravity and an aspect of profound concern as the source of health, happiness, social achievement or improved community standing. . . . More important services, such as the advantages of whiter laundry, are treated with proportionately greater gravity."[57]

And thus the technostructure assures its continued existence at the expense of consumer gullibility. It does not require the consumers to buy what it offers. It offers what the consumers have been made to believe that they must have.[58] It shapes its devotees who

through some biologically and psychologically unknown insatiety and voracity sustain the social importance and prestige that attach to the technostructure. Were it not for advertising which unremittingly emphasizes the indispensability of certain goods and hence of certain corporations which try so hard to make sure that these goods are available, and "were the supply of industrial products to become routine in the manner of water from a waterworks in a year of adequate rainfall,"[59] the technostructures would vanish into the background. They don't however.

And while the masses are being persuaded that they are affluent as never before, they live on effluence as never before.

## 9. The New Educated Labor

> It seems likely that in a culture where education was pursued for its own sake, few [people] would study personnel management, media analysis, market research or costs and quality control.
>
> John Kenneth Galbraith[60]

Characteristic of the Western brand of the industrial state is chronic unemployment. Supposed to combat unemployment, unions are no longer up to it.

As the general material well-being of the toiling classes has improved, as the working conditions and wages have become more acceptable and as the white-collar workers gradually replace the blue-collar ones, the interests of private corporate employers and unionized workers have become more compatible. According to

Galbraith, this harmonization of goals has been detrimental to the power of the unions in nominally capitalist countries.[61]

The stabilization of aggregate demand is fundamentally important for the survival of a corporation as well as for those employed by it. Both sides aim at the same goal. Moreover, the union is not anymore on the other side of the motivational barrier defending the exploited toiling classes. On the contrary, this barrier has been removed and the union has become an appeasing mediator, not so much anymore between profit maximizing rich exploiters and destitute and exploited blue-collar or ragged masses, but between security- and stability-conscious technocrats and a well-policed new breed of white-collar fringe and routine workers who "identify themselves with the technostructure from which they are not visibly distinct."[62]

In the techno-economic industrial state the unions' importance in defending the rights of their traditional clients, namely the blue-collar, skilled or unskilled masses, is mitigated; for, what the capital- and energy-intensive technology of the corporate technostructure demands, is what Galbraith calls "educationally qualified" people. To be "educationally qualified" demands not only skill, but, in contrast and in addition to the merely skilled, a minimum and preparatory education which is essential to the specialized mental qualifications and skills required by high-technology.[63] It follows that, in order to survive, unions will have to come to represent the educationally qualified. However, considering the frequent lack of a clear distinction between educationally qualified employed and the

employers of a corporation, such an option is but a co-option of the unions with the technostructure. In fact, the organized intelligence of the high-technology based corporations has now largely encompassed both the blue- and the white-collar labor movement. "It has dissolved some of its most important functions; it has greatly narrowed its area of action; and it has bent its residual operations very largely to its own needs."[64] And one of its most urgent needs is to insure itself a steady stream of "educationally qualified" people. This results in an increasingly prevalent science-focused "education." In contrast to one's study of the humanities, one's study of the sciences, one's involvement in scientific research or one's aspirations for technological expertise are generally viewed as promising high financial rewards and societal esteem. With the exception of explicit "humanities" schools, most universities are gradually metamorphosing into vocational schools with the objective to train phalanxes of narrowly specialized "experts" to fill the technostructural niches of the industrial state, to provide it with paper-shuffling governmental bureaucrats, and to assure their and technocracy's survival by producing more science-oriented "educators."

The most generous grant-givers to university departments are science-based big corporations. In return, universities provide "useful" results and educationally qualified talent. "Only those," writes Mumford, "who identify themselves with the goals of the power system, however humanly absurd, are in line for promotion, for big research grants, for the political power and the financial rewards

allotted to those who 'go with' the system."[65] In the great factories of knowledge, education has ceded to ethically and spiritually neutered technocratic indoctrination. For what the culture and cult of science and technology need foremost, is an acquiescent army of "educated" labor which prostitutes itself to the needs, values and goals of the technocracy, and which enacts with professional efficiency the dictates of suave slavery.

## 10. The Corporate State: In Defense of War

> The line dividing the state from what is called private enterprise, or at least from the highly organized part of it, is a traditional fiction.
> John Kenneth Galbraith[66]

> Defense expenditures in their present magnitude are, in part, an accommodation to the needs of the ["planning"] system and the technostructure.
> John Kenneth Galbraith[67]

The "capitalist" state (the legislative, the executive, the judiciary and the military) has entered an unextricable symbiosis with technostructures which have accommodated it to their social purposes via identification and adaptation as motivational forces rather than via the pecuniary persuasion of governmental bureaucrats. This is easy to understand when we consider the freewheeling shifting about between government officials and corporados. Both belong to what C. Wright Mills calls "the power elite."[68] Since they share the same social identity, "the higher members of the military, economic, and political orders are able readily to take over one another's

point of view, always in a sympathetic way, and often in a knowledgeable way as well."[69] And thus it is possible that government officials and corporados become increasingly indistinguishable, that, for example, corporados become temporarily government officials and vice versa. By sharing their representatives, government and technostructures enhance their communication, collaboration, flexibility and stability.

As a result,"the technostructure comes to see the same urgency in weapons development, the same security in technical preeminence, the same requirement for a particular weapons system"[70] as the government officials. This symbiosis is practically evidenced in defense procurement "which provides contracts of long duration, calling for large investment of capital in areas of advanced technology."[71] Furthermore, the corporations are protected in their investment by the government against the risk of price fluctuations. "For no other products can the technostructure plan with such certainty and assurance. Given the inevitability of planning, there is much attraction in circumstances where it can be done so well."[72]

The halo of the state as independent from the private corporations and in the service of the public is, consequently, a false one. The government and the technostructure are so intertwined that to point to the legislation and the lawsuits against corporations is to point to an effigy of state power. That legislation is in great part for the sake of appearances; the lawsuits are pretentious muscle-flexing which, like the legislation backing it up, may be bothersome

and costly to a corporation, but rarely to the point as to render its political manipulations inoperative within the overall symbiosis between the state and the technostructure. "The hands on the levers of power," Roszak reminds us, "must be those of politicians--and the politicians must continue to pretend they serve the general will of the citizen body as expressed by conventional electoral means."[73]

At any time corporations may ask the government for financial subsidies and, as, for example, in the case of the nuclear power companies, they not only get it in addition to tax facilities and research grants, but they also are in great part relieved from the responsibility for their activities which the state claims to assume, but which ultimately the population at large has to pay for. Since costs are passed on to the consumer in the price of commodities, the cost bearing capacity of the consumer is a serious matter of consideration in the technostructure's planning. The law of supply and demand, determining the prices of commodities, is, in view of the planning system of the industrial state, a fabrication of free market textbook idealists. The state and the technostructure go hand in hand in the management and stabilization of aggregate demand, the distribution of costs and the fixing of minimum and maximum levels for wages and prices. All things considered "the planning structure of the [planning] system is effectively complete. All that remains is to insure that everyone, at all times, refer to it as an unplanned or market system."[74]

The free market facade is important, for it conceals, say in the case of the nuclear power industry, that the government's military

expenditures serve the needs of the nuclear technostructure and that the military's needs are planned by the latter. An example for the point made: plutonium can be produced as a by-product of commercial reactors and "hence" is needed for military defense. The government's social purpose is the nuclear technostructure's social purpose: a safe and happy country and "therefore" a strong defense.

Such is the logic of the corporate state.

## 11. Technocracy in Question

> Existing economic theory gives high moral and scientific sanction to social indifference.
> John Kenneth Galbraith[75]

Where are the technostructures of the big corporations and the new industrial state going? An answer will be difficult to find, partly because we are not used to asking that question and partly because, if we do, we do not bother to answer it, for we have been lulled into believing that the way things have to go is the techno-economic way. We have been subliminally seduced to uncritically believe that our needs and demands are intrinsically good as long as they are in line with the presuppositions of the techno-economic planning system and thus harmless to the technostructures. Our public inadvertence as to the consequences of techno-economic thought is due to technocracy's suave behavioral control techniques as well as to the overt legal management of the masses by technostructures which go hand in hand with government, unions, educational and scientific institutions. While managing aggregate demand, the corporate state

administers conformity, not only of consumption, but also of belief, commitment and social purpose. In other words, the suave technocracies like the vulgar technocracies are totalitarian in character.

Regardless of the apparent pluralism in the life-styles, beliefs and social commitments of the members of the suave industrial state, and notwithstanding countercultural and anti-technocratic activeness, there is a widespread agreement that, despite its drawbacks, techno-economics has made us generally better off, that it has made us happier and materially freer and, if not so yet, it will soon do so or, at least, has the potential to do so. This monistic accord which is concealed by pluralistic incongruities as to political creed, economic alliance, religious faith or personal philosophy of life, is a threat to everyone because it results in an impoverishment of the material and spiritual quality of human life which constitutes an imminent threat to an ecologically sound and viable social development of the human species.

A techno-economic, highly automated and technocratic industrial, or perhaps we should say cybernetic, society undermines moral autonomy. "Instead of functioning actively as a tool-using animal," a human will become, according to Mumford, "a passive, machine-serving animal whose proper functions . . . will either be fed into a machine or strictly limited and controlled for the benefit of depersonalized collective organizations."[76]

Those who do not have faith in techno-economics may include romantics, dropping out of the industrial state or worrying about how

to preserve their "personal sanity while braving the great technological wilderness,"[77] and scholarly individuals, whose critical social analysis of techno-economics leads them to envision and to warn against a technocratic future. But to be a member of the techno-structure, to make a living off its well-functioning, to share the vaguely defined goals of the techno-economical evolutionary process, to expect it to solve the problems of poverty and income distribution, to trust it to handle energy crisis and resource scarcity, to live with it without questioning it or without understanding it, and to take it unhesitantly in stride is to be a psychopathic impersonal nobody ailing from creative dystrophy.

The decline in the material quality of human life is the result of our harmfully exploitative interference with the crucially important biogeochemical cycles which constitute our life-sustaining environmental matrix. Air, soil and water pollution together with rapid resource depletion may be regarded as "objective" symptoms of a techno-economic disease. Political apathy, excessive alcohol and drug consumption, high white- and blue-collar crime on the one hand, and, on the other hand, the countercultural efforts to rechannel human energy towards human-scale technology, face-to-face democracy, decentralized communal living and human growth oriented spiritual disciplines indicate that the spiritual-psychological sphere of our lives is ailing from a widespread existential malaise.

If this overall view of the state of the material and spiritual quality of life of contemporary Western cultures is correct, then,

indeed, we ought to have sufficient reason to regard the industrial state not as a blessing for humanity, but as what it is: a fortress of squalor.

To resist and undo the West's evolution towards a technocratic Mega-Culture, and to prevent this trend from spreading to the East, we need to realize the harm perpetrated by our inadvertence as to the consequences of techno-economic "progress."

Yet there is a contemporary widespread political indifference: it may be the result of a feeling of hope- and helplessness in the face of an overwhelming techno-economic mechanism which is in the process of reducing the individual to a quasi-consummate consumptive stimulus-response automation.

I submit that the reason why a great section of the populace remains apathetically entrusted and/or committed to techno-economics, is because it does not envision any alternative to what there is. In order to undo our problematic situation, we have to face unapologetically what there is and take charge as to what there ought to be.

In this subsection on the techno-economics of the industrial state, I intended to show and explain not only what there is, but also how our inadvertence has come about and is maintained by technocracy. Sketching what there could be shall be my purpose in the following subsection.

b. What There Ought To Be

> What people must see is that ecologically sane, socially responsible living is good living; that simplicity, thrift, and reciprocity make for an existence that is free and more self-respecting.
> Theodore Roszak[79]

## 12. For an Economics of Quality

> The quantitative orientation is so bereft of qualitative understanding that even the quality of "orders of magnitude" ceases to be appreciated.
> E. F. Schumacher[79]

What is the alternative to technocracy? A citizenry which will rely on its own experts, people who bear witness to the political corruption of technostructural expertise? Such a "strategy of countervailing expertise" would only uphold, according to Roszak, the public's reliance on experts and this is an inherently undemocratic way of running a society's economy.[80]

A technocracy which manipulates us to conform to techno-economic social purposes and goals, to consume maximal quantities of obsolescent products and to believe that to have and to get is better than to be and to enjoy, ought not to be called upon to define our standard of living, for the latter is a matter of quality which, in turn, is a matter of esthetics and not of quantitative formulas and statistical abstraction. The quality of our lives ought to have nothing to do with "arrangements for avoiding muscular energy, increasing sensual pleasure and for enhancing caloric intake above any nutritional requirement."[81] On the contrary, a free, self-reliant and responsible people ought to untie its technostructural

fetters. It ought to refuse to buy what is offered on the planned market, restrain its material needs and expand its spiritual ones. It ought to run small-scale, face-to-face, decentralized and quality-oriented economies in which humans are creatively self-employed. Humans ought to enjoy leisure in an environment free from mass persuasion, and they ought to carefully use and recycle resources as well as minimize or avoid ecological damage. We ought to be able to be human and reliable without marching in step with the dictates of the clock, without identifying ourselves with a pre-fabricated social purpose, without toiling for the effluvium of materialist perversion, without saluting the technotronic Goliath.

Ecology ought not to be a function of economics, as it is presently regarded in planning of all sorts (as, for example, of the market, civil constructions, land use and landscaping), but, for the sake of an intellectually rewarding, esthetically satisfying and ethically purposeful human life, economics needs to be subordinated to ecological concerns, standards and values. We have to understand that the ethical qualities and social energies of healthy and caring human communities are more reliable than the non-human resources of the earth and the quasi-perfection of machines. Work ought to be a salutary and self-fulfilling living-learning experience rather than a mind- and meaningless toiling in the name of productivity, efficiency and quantitative progress. Leisure must be wanted <u>per se</u>, for its meaningfulness, and not accepted as the inevitable goal of a highly industrial society which renders the masses obsolete as

producers. We ought to eat pesticide-free organically grown food, use solar, wind and geothermal power to run ecologically sound, non-polluting economic affairs. The crafts ought to be accorded greater prominence.

Our social and individual problems are due, in great part, to the techno-economy's inability to handle esthetic and ethical concerns. In a nominally capitalist society, social services such as health care, provisions for the aged, physically or mentally infirm tend to be neglected. Choosing, for example, the location of an industrial plant not according to considerations of efficiency, but in line with esthetical guidelines, is an inconvenient and costly constraint.[82] And more often than not, those who champion esthetic priorities find the burden of proof dumped upon their shoulders.[83] Yet, economic efficiency ought always be evaluated against human aspirations to freedom, self-actualization and dignity, for the esthetic side of humanity is not dead. It is only strongly suppressed, ignored or relegated to the irrelevant as evidenced by the abominably low social status of artists in comparison with engineers and business persons.

In an ecology-based society there need not be competition for producer sovereignity, nor ought there be consumer sovereignity. What is needed is an enjoyer and creator sovereignity in human communities which esthetically (rather than economically) develop on the basis of cooperation around qualitative standards. Our educators, therefore, need to re-evaluate their purposes and goals, and to seek

alternative social meanings, by according priority to the teaching of the humanities, by stressing the importance and necessity of individual power, by explaining the coming about, the working and the harmfulness of the industrial state and by offering the basis, means and programs for societal change. Rather than expand, support or build more vocational universities to serve a techno-economy, our educational efforts should channel our creative energies so as to cultivate a people- and life-centered (rather than a machine-centered) philosophy of technology which "is not hostile to science-based alternative technics, [but] denies that technics are good merely because science-based, or bad merely if not."[84]

In a society which is creative rather than merely productive, people ought to reach out for quality person-to-person interaction, and seek feeling-centered empathic communication rather than to bow down to impersonal, authoritarian quantity-obsessed technostructures. Such a society would allow everyone to self-actualize, to unfold his/her talents. Instead of factors of production, we should search for factors of creation such as, for example, self-esteem which is measured by the extent of one's empathy towards others and which is the major motivating force of all human behavior and creation.

Large-scale planning and the planning firms are not compatible with what we would call a human-scale, politically, economically and technologically decentralized communitarian living. Indeed, it is the very antithesis of participative democracy. And, asks Roszak, "what other kind of democracy can there be?"[85]

The single-minded growth-mania of technocracy is doomed to break down since it knows no limits in a limited environment. Furthermore, what makes the contemporary economic wheel go around, namely greed and envy, drives humans into an acquisitive blindness which over and over again will lead to wars. The present economics of growth, therefore, ought to cede to what E. F. Schumacher called an "economics of permanence."[86] Such an economics is grounded in wisdom and peace.

"The cultivation and expansion of needs is the antithesis of wisdom. It is also," according to Schumacher, "the antithesis of freedom and peace."[87] As we gradually give in to the subliminal seduction of technocratic rhetoric, we increasingly lose our moral and behavioral autonomy. This in turn generates existential fear which makes us strive, fight and kill for an imaginary security. There is only security in wisdom and "wisdom demands a new orientation of science and technology towards the organic, the gentle, the non-violent, the elegant and beautiful."[88]

Within an economics of permanence a re-orientation of science and technology would ensue in methods and equipment which are suitable for small-scale application, compatible with humanity's creative needs and accessible to virtually everyone.[89] "Small-scale operations, no matter how numerous," wrote Schumacher, "are always less likely to be harmful to the natural environment than large-scale ones, simply because their individual force is small in relation to the recuperative forces of nature."[90]

An economics of permanence is an economics of quality, a "Buddhist economics"[91] which centers around wisdom which, according to Schumacher, one can find only inside oneself, provided one succeeds "to liberate oneself from such masters as greed and envy. The stillness following liberation--even if only momentary--produces the insights of wisdom which are obtainable in no other way."[92] And wisdom generates peace, the peace of a humanity which knows itself to be "not a producer but only a converter"[93] of universal energy.

In contrast to techno-economics which "tries to maximize consumption by the optimal pattern of productive effort," Buddhist economics "tries to maximize human satisfactions by the optimal pattern of consumption."[94] An economics of quality would eliminate the high pressures of a techno-economic living which, despite its labor-saving high-technology machinery, is psychologically, mentally and physically more straining, draining and detrimental than a way of life which seeks simplicity, creativity and self-fulfillment.

In a small-scale, communitarian society people would disaffiliate from the state, decentralize, assume political, economic and moral autonomy and cultivate what Roszak calls "the visionary commonwealth."[95] The latter is the abode of the "rhapsodic intellect,"[96] a liberated consciousness which leads "into the province of the dream, the myth, the visionary rapture, the sacramental sense of reality, the transcendent symbol."[97]

The politico-economic style which is most hospitable to egalitarian social ethics, the sense of organic harmony and the visionary quest is a communitarian anarchism which is grounded in

spontaneous self-regulation.[98] In contrast to techno-economics, an anarchist economics of quality will stress the arts and crafts and small-scale technologies. According to Roszak, the new economics ought to be elaborated out of kinship, friendship and cooperation; it ought to revitalize work as a self-determining, non-exploitative means of spiritual growth. Regionalization and grass roots control of transport and mass communication ought to be typical in a barter exchange system with non-bureaucratized, user-developed and user-administered social services. De-urbanization, rehabilitation of rural life, organic homesteading and non-compulsory education ought to be the hallmarks of this alternative anarchist political economy.[99]

To aim for a safer and more durable, pluralistic, eclectic, intellectually and esthetically agreeable society, and to struggle to overcome our prejudices for the quantifiable and at the expense of the qualitative, is a phenomenal task, for habit, crude and lazy intellect, fear of innovation, stubbornness and technocratic selfishness are powerfully resisting innovating attempts.

And thus we continue to suffocate from industrial squalor, to dream about economic and social liberties which we do not have, yet we worry very little about the liberties the industrial state takes in threatening our lives, indeed, all human, animal and plant life, with its policies of unbridled growth.

Rather than to keep narrowing our universe of discourse to the quantitative horizons of techno-economists, we ought to expand it to encompass the qualitative reality of emotions, human dignity,

freedom, self and spiritual aspiration. These, however, do not lend themselves to the simplifications of technostructural planning and expertise. This is why we need to thrust much of our energies into the making of an ecological economics of quality concerned with genuine human needs and aspirations. Precisely to urge this, I deemed it necessary to sketch an alternative, ecocratic (rather than technocratic) way of looking at economics, and to contrast it with techno-economic single vision. My outline of an economics of quality could serve as a guideline for a revolutionary social and personal program once we come to realize that what there is, is no good and that what there ought to be needs all our caring attention.

I shall now turn to the socio-developmental indicator.

## B. The Socio-Developmental Indicator: The Poverty of Development

### a. What There Is

> Everything sounds very difficult and in a sense it is very difficult if it is done *for* the people, instead of *by* the people.
>
> E. F. Schumacher[1]

### 13. Undeveloped, Developing and Developed Societies

> For developed and underdeveloped societies alike, basic questions are neither economic, political, nor technological, but moral.
>
> Denis Goulet[2]

So far I have described and explained the techno-economic workings of the new industrial state. What I shall concern myself with in the following is the relationship between techno-economics and that part of humankind which is only minimally or not at all structured and functioning according to the standards, needs, expectations and values of techno-economics.

The part of humankind still unaffected by industrialism has been called the Fourth World or the Un(der)developed World. It consists of what is also called traditional societies. That part of humankind which is in the process of more or less slowly and more or less successfully assuming the techno-economic habits of the industrial states, i.e., of the Developed or Modern World, has been named the Third World or the Developing World and consists of what is termed transitional societies.

The notions "underdeveloped country" or "developing nation" quite often are associated in our minds with poverty, disease, and famine, three big plights symptomatic of a morally defective socio-developmental mismanagement.

Since a commonly held view assumes undeveloped and developing societies to (have to) evolve in the image of developed or so-called advanced societies, it will be important for our evaluation of humankind's contemporary state of cultural evolution to describe and explain what the values are which underlie the attitudes towards socio-development among techno-economic as well as non-techno-economic societies and to contrast those values with what they ought to be.

With Goulet I contend "that prevailing images of development are defective and that the standard view of its proper means and goals is erroneous."[3] With this in mind I shall now elucidate what development is commonly thought to be.

## 14. Techno-Economic Imperialism

> Businessmen in Japan, Turkey, India, or the United States have more in common with one another than with their own countrymen.
>
> Denis Goulet[4]

> "To be underdeveloped" is to be relegated to a subordinate position in history, to be given the role of adjusting to, not of initiating, technological processes.
>
> Denis Goulet[5]

Development may mean different things to different people. Most commonly, however, development is regarded as synonymous with

(1) economic growth or (2) economic growth including social change.[6] Not all social changes, however, are to be viewed as development,[7] and development itself is only a part of a much broader historical process which involves a complex web of interacting and interdependent cultural, ecological, political and economic factors. According to Goulet, development "is regarded by many simply as one aspect of modernization--namely, movement toward economic and social modes of existence characterized by relatively high levels of material living and rational control over environment."[8]

If development is mainly characterized by a movement towards high levels of material living and rational control over environment, then we may distinguish between two kinds of development: (1) techno-economic development and (2) political development.

Techno-economic development involves the material aspects of modernization. It concerns itself with technological efficiency, stabilization of aggregate demand, long-range planning, and "rational" domination over the natural environment.

Political development, in contrast, aims at political power and ideological influence,[9] i.e., at domination over the social environment. Both kinds of development are closely related; developed, techno-economic nations went through both of them. Entry into technological modernity will be very difficult for those nations that have not yet developed or are trying to develop techno-economically as well as politically.[10] This is so, because development is most often understood by rich nations to mean exclusively techno-economic development. While they are more likely to grant techno-economic assistance,

"advanced" nations often obstinately refuse to support the political development of non-techno-economic nations. While they profess a desire to share technology and abundance with non-industrialized nations, "advanced" societies believe that "power and ideological mastery are not to be transferred on the same terms and in the same manner as economic progress or scientific know-how."[11] Unlikely to resist the temptation to "domesticate" the socio-development of the "have-nots," the industrial states will continue to dispense aid on geopolitical and ideological grounds, while multi-national corporations will continue to pursue profit and the stabilization of aggregate demand with little regard for the priority needs of poor nations.[12]

Yet, if in the industrial states governments have more or less perfectly accommodated themselves to the needs, values and expectations of the planning firms' technostructures, the governments of non-techno-economic nations do not so easily surrender themselves to the accommodation strategies of multinational corporations. Witness the struggle for political independence in many pre-modern nations, which evidences very well that techno-economic development and political development are not two sides of the same developmental coin, but two different coins.

Being politically dependent on the rich, the poor nations are, by the same token, not masters over their economic destiny. Indeed, the traces of techno-economic development which we can identify in poor nations do not express necessarily their socio-developmental needs, values and expectations. On the contrary, their needs, values and expectations may be more adequately served and fulfilled by

types of economic development other than the techno-economic one (such as, for example, a development along the lines of an economics of quality). That, however, non-industrial nations also tend to embark on the path of techno-economic growth may indicate several things. For one, they may be pushed onto that path precisely for want of political independence from the industrialized nations. Second, they may be politically independent and choose to go techno-economic either because they believe they are forced to do so in order to survive or because they have been suavely converted to the techno-economic faith. Third, and this is more often than not the case, non-industrialized nations may be nominally politically independent when, in fact, their political machinery is completely ineffectual and highly vulnerable to the crude or suave techno-economic manipulations of the industrial states.

In any case, taking up the techno-economic course tends to be pernicious to a nation's cultural-historical, and ecological matrix. To jump on the bandwagon of quantitative efficiency and statistical growth is to yield to a new form of colonialism which I shall term techno-economic imperialism. The techno-economic imperialist exports a techno-economic know-how which is not simply superimposed upon a non-industrial nation; considering its far-reaching implications upon the latter, the transfer of industrial technique is tantamount to political and cultural rape.

## 15. Educating for Ecocide

> Development has no meaning apart from the ecological and symbolic transformations which envelop it.
>
> Denis Goulet[13]

> The Nigerians trained in England came home more British than the British.
>
> Glenn L. Johnson and Lewis K. Zerby[14]

Techno-economic imperialism is destructive of a non-industrial society's authentic cultural, historical and socio-developmental characteristics. By authentic cultural, historical and socio-developmental characteristics I mean organic characteristics, i.e., traits which are congruous with the total symbolic context in which a culture evolves. The total symbolic context of a culture is the way a human sociosystem relates itself to an ecosystem and evolves therewith.

The interference of techno-economic imperialism with the symbolic world of non-techno-economic societies I would call symbolic pollution (or spiritual pollution). With symbolic pollution comes material pollution and "the ecological boomerang effect, which arises when a development act throws an ecosystem out of balance, and there is counteraction by forces within the ecosystem that vitiates the gains of the development project."[15] Perpetrated by a developer who is not a member of a local society, a development act "devalues or displaces the perception by the members of that society of their relationship with their natural and social world."[16]

The costs of ecological pollution (symbolic and material pollution) are unmeasurable in pecuniary terms and can be summarized as follows: (1) a serious depletion of a unique inventory of various animal and plant species and of unique ecosystems, (2) the loss of what Appell calls the "culture-specific knowledge of the ecosystem"[17] and (3) the dysfunctional reactions to and health consequences ensuing from the spread of techno-economic imperialism.

1. The extinction of ecosystems, of various species of fauna and flora entails a great loss to humankind in general, for we will never know their potential contributions towards helping us to better adapt to the biosphere and towards providing us with medical knowledge.[18] "One example of the unexpected value of flora for [humanity's] survival is the recent discovery that certain gymnosperms have compounds that display anti-cancer activity."[19]

The loss of indigenous cultivars will impoverish the genetic pool of life and the simplifications of our ecosystem will render humanity that much more vulnerable.

2. The loss of culture-specific knowledge of an ecosystem is due to "development acts." Culture-specific knowledge, such as indigenous pharmacopoeias and chemotherapeutic know-how, tends to be supplanted by the "modern" or "scientific" knowledge which missionaries and educators dispense copiously without realizing in their arrogance that, for example, "the germ theory of disease causation to which they subscribe is really only a folk belief of their own native society and is now under considerable revision."[20]

When what I would call "standardized techno-medicine" displaces culture-specific "organic" or "natural" medicine, indigenous knowledge, accumulated over generations via a thoroughly empirical trial-and-error process, is replaced by an imported knowledge which, when compared with culture-specific knowledge, is much less functional and even highly disruptive of a culture's traditional way of life.

It has become a commonplace in the techno-economic mind to disregard the culture-specific knowledge of non-techno-economic societies as "inferior" to scientific knowledge, as the "superstitious aberrations" of "mentally retarded primitives." Only when we "discover" by techno-scientific means what has been known for thousands of years to "primitive" minds, does such knowledge become credible to Western minds. For example: "recent experimentation with biofeedback has demonstrated that the mind can indeed control what are normally considered involuntary bodily functions, yet this was claimed by Yogi centuries ago but dismissed by the Western materialist mind as ridiculous."[21]

But, how come, so we may ask, that the loss of culture-specific knowledge is so rampant? Are there no individuals in the endangered cultures who have foresight enough to warn against techno-economic knowledge, whether imposed or desired?

Techno-economic imperialism assures its continuation and enhances its success and expansion in two important ways: (1) Modern nations "train" pre-modern students who quite often return to their homelands to work from within a techno-economic frame of mind, and

(2) modern nations attract pre-modern intellectuals away from their homelands leaving non-techno-economic nations brain-drained and thus bereft of potential forces for non-techno-economic socio-development and against techno-economic imperialism.

When "sophisticated Westerners" "train" "backward non-Westerners," the training takes place in a spirit which assumes a one-way educational exchange in which the giver and taker are clearly defined. The teachers from the more sophisticated centers of the trainer and trainee countries impart a knowledge and skills which "have little or no relevance to the local ecosystem in which the education act occurs; except in that they may encourage the pupils to accept an exploitative view of the natural world derived from the value system of the Western nations."[22] And since indigenous knowledge "is not included in the educational process, its relative status is implicitly devalued, if not explicitly in certain cases."[23]

If this "educational" socio-developmental process continues long enough and with a total lack of tolerance as "sometimes practiced by the Western-educated elites of Third World countries who view their less economically developed country[people] as illiterate savages with nothing to offer their country's growth and evolution,"[24] then the indigenous culture-specific knowledge of the ecosystem is not only devalued but also displaced by techno-economic knowledge. This constitutes a loss for humanity in general. Furthermore, it undermines a culture's self-esteem and strains the cultures in question, especially when they also suffer from ecological pollution.

3. The stress considered above leads to psychologically destabilizing effects. When techno-economic imperialism imposes itself on non-industrial cultures, we are likely to get dysfunctional reactions to socio-developmental changes or the threat of them.

Dysfunctional reactions and dysfunctional adaptations to stress are stressor-produced, the stressor being, in this case, techno-economic imperalism. Rather than being directed toward the resolution of the threat, this sort of reactions and adaptations requires a society's energy and resources "to be redirected into support and maintenance activities for the social system."[25] This, in turn, impairs the health of the individual members of a culture who suffer not only from the stress they perceive, but also from the way they deal with it.[26] Often the latter will result in deviant behavior which will increase as coping mechanisms for stress reduction deteriorate and become inappropriate.[27] A loss of self-esteem, role conflict and ambiguity and an unclosable "aspiration-achievement gap" will lead to psycho-mental disorders which force a society to rechannel energy from productive and creative to protective and maintenance activities.[28]

Based on the foregoing I may conclude that techno-economic imperialism is lethal to organic cultures or what I would call <u>eco-systemic cultures</u>. Moreover, a techno-economic culture is lethal to itself, for its large-scale, centralized and quantity-oriented technology destroys the ecosystem in which it evolves. More about that later. Suffice it to say for now that techno-economic socio-development is, in the long run, ecocidal and therewith homicidal.

## 16. Inertia Versus Complacency: A Manipulative Reciprocity

> The developed viewer is a large part of the underdevelopment problem.
>
> Denis Goulet[29]

> If you are nobody economically, you are nobody, period.
>
> American black leader[30]

Techno-economic imperialism is insensitive to the feelings of the poor nations. Since it is only engrossed with techno-economic progress it does not bother to empathically understand the cultural world of values, beliefs and customs of the non-industrial nations and hence is unable to experience their vulnerability and impotence when faced with technological giantism.

The world of a development scholar, a technical expert or an educator is totally opposed to that of his/her subjects: they are fragile and ignorant while the developers are strong and knowledgeable; the latter understand how and why decisions are made while the former suffer from the consequences of decisions not of their making.[31] The outcome of such an unequal and manipulative interaction is an inherent "structural paternalism"[32] in the very relationship between the helper and helpee, the developer and the developee. "The very existence of such nomenclature is evidence of cultural paternalism. To awaken to it experientially is to undergo the 'shock of underdevelopment.'"[33]

A poor notion may find the notion of "development" irrelevant to its values, beliefs and customs. If, however, it recognizes itself as "underdeveloped" it will find itself in a humiliating position

prone to lower its self-esteem, for once it realizes that it is underdeveloped it also acknowledges that: "(a) the terms of reference 'developed' and 'underdeveloped' have been defined by the stronger partner to the relationship; (b) one could be developed; (c) one should be developed."[34]

Add to the lowered self-esteem the inertia of the "helpee" and the complacency of the "helper," and you get domination and exploitation policies which favor the rich nations' political ideologies as well as their technostructural needs, values and aspirations. Relying exclusively on techno-economic standards, the "helping" nations (often in collaboration with the "helpee" nations) come to ignore cultural and historical as well as ecological and socio-political considerations in their planning for techno-economic development so that the implementation of such inconsiderate and inadequate socio-developmental planning results in a quandary which is disenchanting to both "helper" and "helpee."

For an Indian villager, for example, who has grown accustomed to identifying acquisitiveness with the reprimandable trait of greed, the notion that greed may also be understood to be "an effective, perhaps even a praiseworthy, motor of human and social improvement," comes to him/her as nothing less than a shock.[35] Similarly, when techno-economic experts from wealthy countries learn that humans "who live on the margin of subsistence and daily flirt with death and insecurity are sometimes capable of greater happiness, wisdom, and human communion than [they are], notwithstanding [their] knowledge,

wealth and technical superiority," they too are liable to be stunned with incomprehension.[36] This culture shock may alert both the Indian villager and the "modern" expert "to the massive ethnocentrism latent in their 'normal' views of life,"[37] and may help them to lay bare the unfair reciprocity between inertia and complacency, both phenomena which may be regarded as signs of cultural encapsulation.

Thus, we may isolate technological imperialism and cultural encapsulation as two major causes for socio-developmental problems.

## 17. Vulnerability and the Myth of Undevelopment

> The inferior status conferred on the members of the simpler societies of developing countries, on the more "primitive" peoples, is in fact an artifact of the Western-educated mind.
>
> George N. Appell[38]

> It is puerile to judge societies in comparative terms, on the basis of mere surface performance in economics, politics, or social organization.
>
> Denis Goulet[39]

Although it is true that many undeveloped countries are plagued with famine and disease, there are countries which do not suffer from the latter and are self-sufficient as to their food supply and yet still are considered poor and undeveloped simply because they are not techno-economic. Many allegedly undeveloped countries are not poor, are not stagnant, are not retarded. They are simply vulnerable; vulnerable in the face of the enormous outside pressures imposed on them by the world-wide spread of techno-economics.

Goulet distinguishes three kinds of vulnerability: (1) political vulnerability, (2) economic vulnerability and (3) cultural vulnerability.[40]

The political vulnerability of weaker nations is due to their political dependence on the ideology and power of stronger nations whereas their economic vulnerability is a function of their need for foreign pecuniary and material assistance. Weaker nations are culturally vulnerable because their cultural values quite often are drowned in a sea of techno-economic efficiency, productivity and impersonal relations.

Many allegedly undeveloped countries may be vulnerable, yet they are no longer willing to stay so. They are struggling for self-esteem and in that sense they are constantly developing. Their "quest for esteem has taken a political form (independence), a cultural form (an identity consciously symbolized), a personal form (dissent against manipulation), and a therapeutic form (revolutionary violence as a cathartic act of self-affirmation)."[41]

This quest for esteem engenders and is engendered by the consciousness in some non-industrial nations that they must become the agents of their own development, a development which liberates them from techno-economic imperialism, and which overcomes cultural encapsulation so as not to make them fall into the techno-economic trap, for, if they did, it would perpetuate their vulnerability and the myth of their undevelopment.

In the light of the knowledge that underdevelopment is not simple tantamount to "poverty, unsatisfied wants, or minimal

opportunities, but, above all, the powerlessness of societies in the face of destiny, of nature, of a machine age, of scientific technology, of advanced countries, of processes they cannot understand,"[42] this quest for esteem is a formidable enterprise, for it has to be perpetrated against the even more formidable advance of a blind, deaf and insensitive techno-economic imperialism.

## 18. The Lure of More

> The equilibrium between acquisitive desires and effective access to resources has been ruptured in most societies.
>
> Denis Goulet[43]

> A greedy world can only be a divided world, ethically sordid, heading towards barbarism.
>
> Louis J. Lebret[44]

Despite their struggle to free themselves from their vulnerability, many nations are caught in a gap which is difficult to bridge: the gap between their abilities and their needs. Were the latter oriented exclusively toward the structural rearrangement of the sociopolitical and economic patterns or towards a reevaluation of cultural values and expectations in view of eliminating vulnerability, the gap might not exist. Yet, it does exist; and it exists in great part because techno-economic demonstration effects have boosted the hitherto culturally curbed acquisitive desires in traditional societies. "Regardless of their source or precise mode of impact, demonstration effects remove the curbs on desire before providing [humans] with the means to expand resource availability."[45] Once non-industrial

people come to realize that their level of consumption is not the "will of the gods" or ruled by fate, and that they can desire more without necessarily destroying their society, they will, by and large, begin to want more.[46] For, "inasmuch as subsistence living excludes a wide range of enjoyable activities, it is no surprise that [humans] in every culture harbor unexpressed wishes to have more in order to be more."[47] Furthermore, "the very fact that other [humans] have built societies where 'wanting more than one is born with' is condoned testifies to the powerlessness of the gods, the falsity of the rules of fate, and the arbitrariness of their own systems of restricted privilege."[48]

No matter how well meant the efforts to overcome vulnerability, the new possibilities of consumption, the wider range of economic choices and the chance to fulfill some acquisitive desires offered by techno-economics considerably vitiate the non-industrial nations' struggle for political, economic and cultural liberation. And thus genuine social needs, values and expectations tend all too often to be subordinated to techno-economic standards, means and ends with the result that industry is favored "over agriculture, urban over rural areas, the modern over the traditional sector, metropolitan over outlying regions, and large capital-intensive projects over smaller but more labour-intensive undertakings."[49] The outcome: "an over-all increase of welfare disparities . . . between rural and urban areas, and between high and low income groups generally and in cities particularly."[50]

This outcome in turn evidences techno-economic influence and domination in and therewith the vulnerability of non-industrial countries. Judging from the havoc wrecked upon non-techno-economic areas of the world by techno-economic expansion, and knowing the intent of many nations to overcome their vulnerability, I am inclined to conclude that the will for invulnerability is much weaker than the lure for more.

## 19. The Deficiencies of Socio-Developmental Planning

> Can planners realistically expect a populace in misery to reject its obsolete outlook on life unless planning itself ceases to be the esoteric art of an elite whose values are incomprehensible when not hostile, to that populace?
>
> Denis Goulet[51]

Socio-developmental planning quite often is undertaken from within a techno-economic frame of mind because development planners originate mostly from industrial countries and hence are likely to be convinced technological imperialists and/or to be limited by their cultural encapsulation. As a result their planning and implementation activities abound in what Goulet calls "the planner's occupational hazards."[52] These hazards include (1) the illusion of omniscience, partially due to tight deadlines which prevent one from doubting one's certitudes, (2) the inclination to impose goals instead of multiplying agents of human promotion which would help humans to acquire greater mastery over their own destiny, (3) the dangers of over-abstraction concomitant with centralized planning and (4) the

temptation to treat human values as mere instruments of development rather than vice versa.[53] The fourth hazard may be regarded as the most harmful because, while it ignores the authentic qualitative values of non-techno-economic nations, it imposes quantitative techno-economic values as instrumental for an efficiency-oriented socio-developmental planning which in the short as well as in the long run are destructive to non-industrial nations. A quantity-oriented techno-economic imperialism is also a "methodological imperialism"[54] with inherent deficiencies when it encounters non-techno-economic circumstances in the implementation of its "technical assistance" programs. What are these deficiences? Goulet lists four major ones: (1) the elitism of techno-economic industrial states, (2) the national and global interests of the donor nations, (3) the chaotic disorganization of technical assistance and the absence of an explicitly formulated system of priorities and (4) the absence of suitable follow up studies,[55] checkings, evaluations and recommendations which are really in the interest of traditional nations and not simply the empty exercise of an ill-defined and half-hearted developmental duty.

## 20. An Endangered Foundation: Existence Rationality

> It is not change as such which is perceived as unacceptable, but the threat change poses to survival, to identity, or to group solidarity.
> Denis Goulet[56]

Techno-economic imperialism and methodological imperalism threaten what Goulet calls the "existence rationality" of

non-industrial nations. Existence rationality is "the process by which a society devises a conscious strategy for obtaining its goals given its ability to process information and the constraints weighing upon it."[57] It "is a strategy for survival, for obtaining esteem and freedom from needless determinisms."[58]

Existence rationality is based upon core cultural presuppositions and marginal cultural presuppositions. Core cultural presuppositions incorporate what I would call epistemic values and esthetic/ethical values and are operationalized via marginal cultural presuppositions into cultural activities. A culture's epistemic values refer to that culture's image of itself and its place in the world, to its "factual reality," while its esthetic/ethical values shape its behavior, i.e., the behavior of its members. There is, however, no clearcut distinction between epistemic and esthetic/ethical values.

Like the core cultural presuppositions, the marginal cultural presuppositions incorporate both epistemic and esthetic/ethical values. What distinguishes the core cultural presuppositions from the marginal cultural presuppositions is that the former are theoretical and are shared by all the members of a culture, while the latter are practical applications of the former and need not be shared by all the members. Indeed, the variety of a society's cultural activities may lead one to think that this variety is expressive of a variety of epistemic and esthetic/ethical values incorporated in various sets of core cultural presuppositions when, in fact, it is

due to the various ways in which various groups in that society operationalize their common set of epistemic and esthetic/ethical values as imbedded in their common set of core cultural presuppositions.

All this only by way of introduction of the concepts of core and marginal cultural presuppositions which I will give examples of and make ample use of in the subsequent parts of this work.

It is Goulet's thesis "that the acceptance or rejection of developmental change depends primarily on the manner in which change is proposed," and not on any a priori hostility to change inherent in the existence rationality of traditional societies.[59] And the way socio-developmental change is proposed is quite often the techno-economic way: the traditional core cultural values are to be replaced by the techno-economic values of efficiency, productivity and quantitative growth. But since "the core values of all existence rationalities are designed to nurture survival, basic esteem, and freedom, these values should not be challenged frontally."[60]

Yet, they are. Rather than to expand the entrenched core cultural values so as to open the door to an authentic socio-development in step with the genuine social needs, values and aspirations of traditional societies, development planners quite often devise strategies which run counter to, suppress or potentially annihilate the very backbone of these traditional or transitional countries. A society which risks losing its cultural foundation, however, is not very likely to be receptive to development proposals which

are foreign to its ideals and which threaten to undermine its structural and functional cohesiveness. Nevertheless, outside techno-economic pressures are so strangling to non-modern societies that marginal cultural values are easily given up while core cultural values are severely impaired. As a result a society cannot actualize its latent potential to better its quality of life in line with its core cultural values.

I submit that any society has such a latent potential for social development and that when a society is genuinely stagnant, it is either because it is cut off from a healthy stimulation by other societies or because its core cultural backbone has so unsparingly deteriorated as to leave it in a non-developmental coma. For, "traditional value structures do not of themselves create obstacles to change."[61] On the contrary, it is insensitive, narrow-minded and arrogant development strategies "which snuff out traditional societies' latent potential for change. This latent capacity often lies hidden beneath deceptive appearances of immobility."[62] If properly stimulated, however, such potentials can be actualized and kineticized.[63]

E. F. Schumacher, in a much plainer fashion, supports the same point when he writes that it is mistaken to believe that poor people generally loathe to change when the proposed change stands in some organic relationship to their existence as it is.[64] However, they will be reluctant to accept radical innovations, especially when they are "proposed by town-based and office-bound innovators

who approach them in the spirit of: 'You just get out of my way and I shall show you how useless you are and how splendidly the job can be done with a lot of foreign money and outlandish equipment.'"[65]

Unfortunately, however, government officials, i.e., administrators, of both donor and recipient countries carry most of the burden of development efforts; yet, "they are not, by training and experience, either entrepreneurs or innovators, nor do they possess specific technical knowledge of productive processes, commercial requirements, or communication problems."[66] Moreover, they do not possess the psychological skills to understand, evaluate and delicately handle the existence rationality of cultural or ethnic groups which will have to expand mainly via its marginal cultural values and also via its core cultural values which, it is important to stress, will have to remain essentially safeguarded.

In order to protect the core cultural values of a non-techno-economic society and induce a healthy development of the latter, three conditions must be met by the developer and the developee: "(a) new capacities for handling information must be generated; (b) vital resources hitherto not available must become exploitable; and (c) the alien rationality implicit in 'modernization' must be re-interpreted in terms of traditional existence rationalities."[67]

If these conditions are not met, which is the rule rather than the exception, developmental practices degenerate into what Goulet calls "anti-development."[68]

## 21. Anti-Development

> A prosperous society whose members are manipulated by an impersonal system is not developed, but distorted.
>
> Denis Goulet[69]

> The only ethically justifiable goal of development is to make people happier.
>
> Denis Goulet[70]

According to Goulet "a society has 'anti-development' if its 'development' breeds new oppressions and structural servitudes,"[71] such as is the case when, for example, the traditional privileged class of a non-industrial nation is replaced by a new privileged "technocratic" class. A development which gravitates around quantity-oriented economic performance, productive efficiency and a time- and achievement-bound work ethic is anti-development, be it in techno-economic societies or in non-industrial ones. In modern nations "anti-development" can "coexist alongside excellent nutrition, high income, general literacy, bureaucratic efficiency, and expanding investment capacities,"[72] and nevertheless be oppressive in dictating unquestioned submission to the secular ideals of scientific and technological rationality. Anti-development, in great part, originates with what I would call a sick materialism. In contrast to what Goulet calls a "healthy materialism" which nourishes only those acquisitive desires which satisfy the most basic needs of a society, sick materialism reduces humans to what they possess, and measures their personal worth in monetary terms.[73] We may say that in

anti-developed techno-economic societies "luxury is to [the rich] as much an affliction as poverty is to the poor."[74]

In non-industrial nations we can distinguish three major sources of anti-development: (1) the notion of development (disseminated in the world) which equates an abundance of goods with the fullness of good; a notion non-modern societies are not psychologically prepared to reveal as deceptive; (2) the mode in which much technical assistance and financial aid are "donated" by the "generous" and obsequiously received by the "needy"; and (3) the ersatz values which the leaders of non-modern countries have assimilated from modern nations and which have alienated them from their own values and society, frequently making them grow ashamed of their own identity.[75]

Efficiency, productivity and quantity: these are the key goals of anti-development, but they are also its demise, for, it takes enormous amounts of costly energy to sustain these goals. In contrast, genuine development which consists in the expansion of a traditional society's existence rationality, is not only much less capital- and energy-intensive, but also more conducive to human dignity and self-esteem.

## 22. The Bankruptcy of Techno-Economic Ingenuity

> Despite great progress in the realm of means and instruments, modern [humans] have regressed in the domain of ends and of meaning.
>
> Denis Goulet[76]

> Advanced countries fear to allow "underdeveloped" nations to develop on their own terms lest the moral bankruptcy of their own vaunted development be bared to the world.
>
> Denis Goulet[77]

The world-wide spread of techno-economics is pernicious. It promises affluence, yet poverty becomes continually more rampant in the pre-modern societies exposed to techno-economic imperialism. Why? Goulet gives us a partial explanation when he writes that "inhuman poverty cannot be wiped out unless the world as a whole sets out to eliminate poverty, not to obtain affluence."[78] Ignoring moderate levels of material well-being as a worthy goal, many pre-modern nations dedicate themselves to an unrealistic quest of affluence which breeds "forms of determinism, exploitation, and social privilege which are abhorrent to the world's poor."[79] That the wealthy are the minority rather than the majority is itself the sequel of "not subordinating private gain to social good, of not limiting acquisitive desires for the sake of preserving the capacity for value integration in periods of change, of not accepting the responsibilities dictated by the demands of solidarity, of not respecting ecological balances in nature."[80] With regard to the present trend in population growth and the soaring population densities, "affluence

for the few is the only form of affluence possible. . . . To pursue the dream of universal affluence, therefore, is to condemn most [humans] to cruel frustrations and to exacerbate . . . traumatic inequalities."[81]

The techno-economists' assurance that large-scale, highly centralized and capital-intensive technology will bless all of humankind with an unlimited supply of consummable goods is pretentious and untenable, for "technological power is vested in the hands of small numbers of men and organizations whose values, loyalties, and interests prevent them from consenting to use that power to provide affluence for all."[82]

If this is true and if education is only what Schumacher calls a "passport to privilege" which allows one to join a "mutual admiration society" or "a trade union of the privileged,"[83] then the arguments that the world poverty problem is just a matter of equitable redistribution or increased economic growth seem insipid; for "as long as privileged classes or nations continue to regard the emancipation of the world's poor as the fruit of productivity gains alone or mere increases in GNP, without altering present arrangements governing access to resources or shattering the nexus between productive capacity and purchasing power," a worldwide and genuine development will be barred.[84] "Neither the redistribution image nor the salvation-by-growth image is adequate to the problem" of instigating authentic development.[85] What the latter requires is a "massive restructuring of production priorities allied to major changes in the distributive norms governing wealth, skills, and access to resources."[86] However,

the extant social relations between modern and pre-modern countries inhibit such an authentic development. "In a very real sense the Western-educated individual needs the 'savage' to support his[/her] own self-image, to demonstrate psychologically that [s/]he carries a superior culture, for only by devaluing the members of local societies can [s/]he support his[/her] questionable claims for superiority."[87]

All the while, the imagery is propagated that the poor in the rich as well as in the "poor" countries can be saved from their plight by the products of large-scale technology. Moreover, this imagery is not seriously challenged and thus it may strike us as unbelievable when Goulet suggests that "perhaps it is 'developed' nations which must be 'saved' from servitude to means by creative options yet to be made in 'underdeveloped' societies as they struggle to 'modernize' in a human mode."[88] Yet, in the light of our previous views of socio-development, it seems unavoidable for us to reverse our perspective and to start viewing techno-economic societies as humanly undeveloped and in dire need of some developmental inspiration from non-industrial countries attempting to develop humanly. If we don't do this, we are likely to witness what Paul Ricoeur described as the total "triumph of consumer culture, universally identical and integrally anonymous, [which] would represent the zero point of a creative culture; what would result in skepticism on a planetary scale, absolute nihilism in the triumph of well-being."[89]

The bankruptcy of techno-economic ingenuity and of the vast majority of contemporary socio-developmental practices will be

lethal to humankind should we stick to our present practices and neglect to pay heed to what socio-development could be.

b. What There Ought To Be

> Development, in its deepest sense, evokes ideas of maturation, progress toward perfection, justice, greater consciousness, perhaps even greater happiness.
>
> Denis Goulet[90]

23. Esteem, Liberation, Empathy and Reciprocity

> The ancient goals of protecting life, nurturing esteem, and freeing oneself as much as one could in order to be oneself must now become the yardsticks against which development itself is to be judged.
>
> Denis Goulet[91]

> Development, viewed as a human project, signifies total liberation.
>
> Denis Goulet[92]

> Without reciprocity there is "aid," perhaps, but not cooperation or genuine development.
>
> Denis Goulet[93]

Techno-economic imperialism and cultural encapsulation could be replaced by what Goulet calls a "development ethics" which would unite techno-economic and non-techno-economic nations in a common search for a human-oriented development. Development ought to be regarded as "a complex series of interrelated change processes, abrupt and gradual, by which a population and all its components move away from patterns of life perceived in some significant way as 'less

human' toward alternative patterns perceived as 'more human.'"[94] With Goulet I contend that the way development is gained should be as important as the benefits envisioned to ensue from it. Universal solidarity as well as freedom and esteem ought to be nurtured in all societies and all individuals.[95] Cultural and ecological diversity ought to be optimized and social development ought to be regarded not merely as an economic, political or educational enterprise, but as a human project which attempts "to provide all [humans] with the opportunity to live full human lives. Thus understood, development is the ascent of all [humans] and societies in their total humanity."[96]

If "ethics" comes with "that modicum of freedom which human wills are capable of within limits fixed by the workings of nature, the inherited past, and present social configurations,"[97] then a development ethics ought to be concerned with values that foster a "humanly better" life. Certain quantitative and material improvements may be necessary to cultivate the quality of life; nevertheless, "the most important elements of development are not subject to quantitative measurement."[98]

Genuine development "must be gauged by the values a society itself, or some member thereof, deems to be requisite for its health and welfare."[99] This requires a great empathic sensitivity to a culture's existence rationality and its capacity for expansion. But "in this sense at least, development can be described as the 'maturation,' 'humanization,' or 'qualitative ascent' of human societies."[100] With such a notion of development non-industrial countries

ought not to be labelled anymore as "uncivilized" or "economically backward" or "socially primitive."

In lieu of stressing the material benefits supposed to result from a development geared towards efficiency, productivity and quantity, and in lieu of relying on specialized technicians and managers, a humanistically-oriented development ethics should focus "on self-development as opposed to aid, foreign investment, and technical assistance."[101] Development in this view aims not at copying industrial states but at "greater popular autonomy in a non-elitist mode, social creativity instead of imitation, and control over forces of change instead of mere adjustment to them."[102]

While techno-economics values social stability, social control and productive/consumptive efficiency, the development ethics I espouse envisions social justice and a humanistically oriented ethics as supreme. It aims at "freeing [humans] from nature's servitudes, from . . . oppressive technological institutions, from unjust class structures and political exploiters, from cultural and psychic alientation--in short, from all of life's inhuman agencies."[103]

All societies could develop towards liberation and esteem once all social barriers between masters and slaves, owners and dispossessed, rich and poor, educated and illiterate are removed. To achieve this a change in values is necessary and such a change could be most fruitfully induced by thrusting empathy into the forefront of socio-developmental planning. Empathy could help to overcome the defense mechanisms on both sides of the developmental barrier.

The structural paternalism inherent in techno-economic imperialism could be dissolved, provided "modern developers" come to admit at least the possibility that, despite their technological superiority, they may be humanly, esthetically and spiritually inferior to the "materially poor" and "technologically retarded." Once they feel compelled to question the value priorities of their own society and once they contest the legitimacy of their society's institutions, "modern developers" will be ready to embark on the path of reciprocity vis-à-vis non-techno-economical countries.[104] Cooperation in a spirit of humility, vulnerability and active mutual esteem ought to replace "aid" or "assistance"-attitudes. In the absence of genuine and fair reciprocity traditional societies remain vulnerable and their rising expectations frustrated. The "revolution of rising expectations" must, then, "either fail or turn to destructive vindictiveness against its authors unless the foundations of the world's entire political and social thought are questioned and, eventually, replaced."[105] And this is precisely what ought to be our program: to replace the conventional socio-developmental wisdom with an "authentic development"-policy aimed towards esteem and liberation and based upon the qualitative human values of empathy and reciprocity.

## 24. Overcoming the Neglect of Excellence

> The corollary to high specialization in technical achievement is the neglect of excellence in other domains: esthetic, recreational, spiritual and emotional.
>
> Denis Goulet[106]

According to our development ethics, development ought not to be a self-validating goal but ought to be subordinated to the good life; it is the goodness of life that ought to be self-validating, and socio-development ought to be an open-ended instrument towards that end.[107] Rather than preoccupying ourselves with "economic progress" measured by gains in production, increased revenue or volume of trade, we ought to construe a "progressive economy" as one in which humans "who had hitherto been passive now conjugate their efforts to eliminate ignorance, disease, hunger, mendicity, servility and exploitation," and in which the beneficiaries of development are also its agents.[108]

We ought to develop new modes of social accounting which stress the quality of life and which regard culture "not simply [as] a setting from which and into which 'techniques' are transferred, but [as] a value universe affecting the total vision of society's life."[109] The search for wisdom rather than the blind commitment to science should become predominant.

Moreover, we ought to reevaluate our needs and distinguish clearly, as Goulet does, between needs of first necessity, enhancement needs, luxury needs and pathological needs. Pathological needs (such

as cigarette smoking, for example) are nurtured by slogans and catch-words and are inspired by an exaggerated sense of emulation.[110] Needs of first necessity (food, clothing, shelter) are primary for survival. They "must be met if [humans] are to enjoy the minimum freedom required to satisfy other needs."[111] They must therefore be attended to first, before other needs can be gratified. "This holds as a general principle, notwithstanding the fact that poor societies which are incapable of feeding, clothing, or protecting themselves adequately nonetheless invest resources in expressing their feelings and thoughts, in playing, celebrating, and creating."[112]

Enhancement needs contribute to human expression and creativity and thus are "useful (indeed, necessary) to health, growth, and maturity."[113] Luxury needs serve a display function.[114] Although living in luxury does not necessarily have a debilitating or corrupting effect on the human character, "psychologically, it is a sign of puerility, when not of pathology, for a [human] to base his[/her] identity and his [/her] sense of importance on the possession of luxury goods."[115] Luxury needs indicate a poorly developed emotional, intellectual and spiritual life, not to speak of their moral reprehensibility in the face of the large-scale deprivation of primary needs.[116]

With regard to our development ethics the genuine needs are the needs of first necessity and enhancement needs, the latter being crucially important for the quality of human life which arises from the pursuit of excellence. Excellence is to be understood here as a

life-enhancing trait, concomitant with altruism and cooperation and based upon such qualitative human standards as mutual esteem, humility, fair and non-manipulative reciprocity, empathy, liberation and a genuine concern for a culture's existence rationality.

"If," according to Goulet, "the satisfaction of humanity's priority needs were pursued with the seriousness and urgency with which [humans] wage wars or explore space, abundant goods for all [humans] could quickly be produced."[117] Humankind could then dedicate itself to individual as well as cultural self-actualization with the mission to take to heart authentic (rather than techno-economic) development and new ways of thinking; for, "if developers genuinely seek a higher standard of living--quantitatively and qualitatively--for all [humans], the necessary first step is to accept a higher standard of thinking."[118] It is precisely such a higher standard of thinking which I shall concern myself with in Parts Three and Four of this work; I believe that it is crucial in overcoming our socially institutionalized and individually assimilated neglect of excellence.

## 25. The Invisible Development and the Gift of Knowledge

> The modern tendency is to see and become conscious of only the visible and to forget the invisible things that are making the visible possible and keep it going.
>
> E. F. Schumacher[119]

To focus on excellence as central theme of developmental strategies is to approach the latter in a spirit of patience. Development does not come overnight; it cannot be created, nor can its

consequences be planned in all their complexity. Development has to evolve. What we could do, however, is to plan its evolution. But planning ought not to center around visible material monuments of techno-economic prowess usually concentrated in a few "modern" cities within traditional societies and in megalopolis-conglomerations within techno-economic countries, since this creates, what Schumacher called, a "dual economy" characterized by a tension between urbania and hinterland; a tension which produces a "process of mutual poisoning." According to him, "successful industrial development in the cities destroys the economic structure of the hinterland, and the hinterland takes its revenge by mass migration into the cities, poisoning them and making them utterly unmanageable."[120]

Development planning cannot be premised on the formula "What is best for the rich must be best for the poor," for such a philosophy has already bestowed "peaceful" nuclear reactors upon "countries whose overwhelming problems are agriculture and the rejuvenation of rural life, since the great majority of their poverty-stricken peoples live in rural areas."[121]

On the contrary, an enlightened, organic development planning ought to turn official and popular interest away from grandiose techno-economic projects and toward the real needs and aspirations of the poor;[122] it ought to be predicated upon three invisible factors: education, organization and discipline; for, such things as a lack of natural wealth, a shortage of capital or an insufficiency of infrastructure are only secondary causes of poverty. "The primary

causes of extreme poverty are immaterial, they lie in certain deficiencies in education, organization, and discipline."[123] Development, then, ought not to start with goods but with the invisible development of an education, organization and discipline geared to the expansion of cultural existence rationalities. All the people of a society must be included in the invisible development, and not only a few, "because people are the primary and ultimate source of any wealth whatsoever. If they are left out, if they are pushed around by self-styled experts and high-handed planners, then nothing can ever yield real fruit."[124]

Once helper and helpee regard themselves as people, "the gulf between rich and poor, the gulf between educated and uneducated, and the gulf between city [people] and country-folk, which includes that between industry and agriculture,"[125] could be bridged and the methodological imperialism which is concomitant with technological imperialism would lose its aura of necessity and determinism. People should not have to adapt to methodology, but methods and techniques should be tailored to people's existence rationality. This could help to undo what Schumacher calls "unintentional neocolonialism," which, according to him, "is far more insidious and infinitely more difficult to combat than neocolonialism intentionally pursued."[126]

No matter what our socio-developmental strategies, we always ought to view "economic development [as] something much wider and deeper than economics, let alone econometrics."[127] Any economic development is social development; it "cannot be 'produced' by

skillful grafting operations carried out by foreign technicians or an indigenous elite that has lost contact with the ordinary people."[128]

To gain self-esteem and liberation, a people in genuine misery (rather than in what a Western-style techno-economist would view as poverty simply because for him/her "poor" is synonymous with "non-techno-economic") not only ought to be granted respect or be approached with empathy, but also ought to learn or relearn to be self-reliant and self-helping. The best cooperation between helper and helpee would be one of reciprocity based on "intellectual gifts" rather than on "material gifts," for, according to Schumacher, "the best aid to give is intellectual aid, a gift of useful knowledge."[129] A gift of knowledge is worth more than a gift of material things, because "nothing becomes truly 'one's own' except on the basis of some genuine effort or sacrifice. A gift of material goods can be appropriated by the recipient without effort or sacrifice." A gift of knowledge, however, requires a "genuine effort of appropriation on the part of the recipient" without which there is no gift. "The gift of material goods makes people dependent, but the gift of knowledge makes them free--provided it is the right kind of knowledge, of course."[130]

The right kind of knowledge! What is it? It ought not to be techno-economic knowledge per se; nor ought it to be techno-economic knowledge adjusted to the existence rationalities of the helpees. The right kind of knowledge is a knowledge which empathically

understands the epistemic and esthetic/ethical values incorporated in the core and marginal cultural presuppositions upon which a culture's existence rationality is based. The right kind of knowledge is, therefore, able to expand, reshape, correct or refocus those aspects of a society's existence rationality which prove detrimental not only to the sheer survival of that society's members, but also to their pursuit of self-actualization and excellence within ecologically sound and viable cultural patterns.

Judging from the countercultural activities of concerned humanists and youthful revolutionaries within techno-economic nations and from my own analysis of the new industrial state, techno-economics cannot provide the right knowledge for socio-developmental problems. It will therefore be up to the combined efforts of all authentic developers and humanity in general to assure that their invisible development efforts may soon bear visible fruits.

I shall now turn to the ecological indicator.

## C. The Ecological Indicator: Our Synthetic Life and Environment

### a. What There Is

> [Humanity] is literally undoing the work of organic evolution.
>
> Murray Bookchin[1]

#### 26. The Ecosphere: Our Disintegrating Home

> To suppose that we can ensure the functioning of the ecosphere ourselves with the sole aid of technological devices and thereby dispense with the elaborate set of self-regulating mechanisms that has taken billions of years to evolve, is an absurd piece of anthropocentric presumption belonging to the realm of pure fantasy.
>
> Blueprint for Survival[2]

The expansion of the techno-economic mentality around the world and the socio-development of nations under techno-imperialist guidelines based on growth, production, quantity and consumption, proceed within a finite resource environment and hence are bound, sooner rather than later, towards an ecological dead-end. For, techno-economics' "ecological demand," i.e., the sum total of its resource extractions from and its waste disposals into the environment, is growing exponentially, yet no kind of indefinite growth can be sustained by finite resources.[3] Our voracious energy consumption will come to a halt, not so much for want of energy as because of environmental pollution by ecologically disastrous chemicals, radioactivity and waste heat; if not by the two former it will be limited by the heat tolerance of the ecosphere.[4] "Indeed, the availability

of unlimited power holds more of a threat than a promise, since energy use is inevitably polluting, and in addition we would ultimately have to face the problem of disposing of an intractable amount of waste heat."[5] Moreover, an unlimited supply of energy will not prevent the exhaustion of our material resources. Nor will it be able to provide us with synthetics and other substitutes for organic items, since the two former "must be made from material which themselves are in short supply."[6] Our problem, then, is not a matter of cheap and inexhaustible power, but of how to dispose of waste heat and waste matter without disrupting ecosystems.[7]

Ecosphere and ecosystems. What precisely do they refer to? The ecosphere encompasses all forms of life and their physical habitat of water, air and soil upon which they depend and within which they are dependent upon each other. The ecosphere can be organized into countless ecosystems which in turn can be subdivided into even smaller ones. Each ecosystem consists of populations of different animal and plant species tightly interwoven with each other.

From the point of view of materials the ecosphere is a closed system; with regard to energy the ecosphere is an open system. Despite the fact that, according to the second law of thermodynamics, there is a tendency in all closed systems towards increasing randomness (disorder or entropy), the ecosphere has succeeded in counteracting this tendency by virtue of its ability to structurally and functionally organize a small amount of the energy throughput coming from solar radiation. The latter "is used by green plants during photosynthesis to

organize nutrients in the soil into complex plant tissue, which are then eaten by herbivores, and hence reorganized into still more complex animal tissue."[8] This transformation process not only requires energy, but also puts some out in form of waste heat. Although waste or random parts must be generated in the ecosystemic organization process, disorder can be kept at a minimum provided that entropy is continually "pumped out."[9] This can be best ensured if all materials are recycled within the ecosystem.

If the one-way flow of energy and the cyclic flow of materials are finely attuned within a negative feedback system any disturbance to the ecosystem can be easily dealt with; the ecosystem can readjust itself to homeostasis (equilibrium). If there is an optimum value to every variable in terms of which the ecosphere or an ecosystem is described, then that ecosphere or that ecosystem can be regarded as having its correct structure. "This means that there is no value that can be increased or reduced indefinitely without bringing about the system's eventual breakdown."[10]

While ecosystemic breakdowns may, now and then, be perpetrated by geophysical and climatological factors or by an occasional plant or animal species, by far the most enduring and frequent ecosystemic disruptions have to be credited to the human species and homo techno-economicus in particular. The capital- and energy-intensive, large-scale and highly centralized techno-economic production patterns are usually geared towards short-term and specific targets myopically disregarding the ecologically disastrous positive (runaway) feedback

mechanisms they engender within the ecosphere. Techno-economic nations have become addicted to the fetishes of quantity and expansion which foster permanent ecosystemic disequilibria and breakdowns. While "it is probable that our ecosphere does not produce a single molecule for which there is not an enzyme capable of breaking it down in order to perpetuate the essential cycle of life, growth, death, and decay,"[11] the synthetic products of techno-economics usually cannot be broken down the "natural way" and hence not only clutter up our environment but also quite often become integrated into its vital parts. With regard to humans, here are some examples of the covert and overt harmfulness of techno-economic synthetics: strontium-90, deposited in the bones of individuals, can give rise to bone cancer; iodine-131, accumulated in the thyroid gland can engender cancer of that gland; DDT in the liver or the fatty tissues can cause cancer or liver diseases; the same holds true for plastics and many other pollutants accumulating in our bodies. In fact, "as industrialization proceeds there is a very rapid increase in the so-called degenerative diseases."[12]

Techno-economic devices reduce the complexity of the ecosphere and the length of food chains; they destroy ecological niches; in short: they quantitatively and qualitatively reduce the stability, complexity and diversity of the ecosystem thus rendering it extremely vulnerable and decrepit. The environment has become the waste-basket of human production and consumption patterns.

Human-made radioactive fission-roducts (such as plutonium, iodine 131, strontium 90 and many others), an unsurveyable host of

pesticides, toxic heavy metals (such as mercury, lead, arsenic and cadmium, to name only a few), asbestos, oil pollution; all these not only raise our ecological demand upon the environment but also degrade it to a poisoned and poisoning morass in which it is increasingly impossible to live a full and healthy life.

If we consider that all types of pollution are not merely additive in their effect but also mutually reinforcing, and that the synergistic effects, i.e., more than additive effects, of our ecological demands upon the environment stress it to such an extent as to halt, reverse, or ruin ecosystemic evolution, we may very well say that homo techno-economicus is systematically degrading what took eons to evolve. It is grossly presumptuous to seek to replace ecosystems, rather than to understand them and adapt oneself to them. Since our industrial way of life is "geared to the satisfaction of petty, short-term anthropocentric ends," the ecosystemic and organizational evolutionary process "has been reversed; waste, or random parts, are accumulating faster than organization is building up. Rather than counteract the inexorable trend toward entropy, [techno-economic] activities are accelerating it."[13]

Over thousands of years, humankind has expanded its ecological niche. In the last two centuries, its techno-ecnomic values and attitudes have perilously undermined the healthy functioning of the ecosphere which, once our home, now threatens to become our grave.

## 27. Techno-Agriculture and Synthetic Food

> The fact that a chemical is technologically useful does not mean that it is biologically desirable.
> Murray Bookchin[14]

It is a commonplace that the human world population is growing exponentially, while the earth's productive lands suffer from diminishing returns. More and more synthetic pesticides and fertilizers, more and more mechanical energy and fuel are used resulting in less and less nutritional output per amount of pesticides, fertilizers and energy invested. Nearly all arable areas are being cultivated; indeed their surface is reduced as demands for urban, suburban and industrial development expand. The intensification of farming practices leads to soil deterioration and eventually erosion once a certain point, which varies with climate and soil type, is reached.[15]

Meanwhile our daily food contains carcinogenic, teratogenic and mutagenic residues of fertilizers and pesticides, while the effectiveness of pesticides in fields and orchards is reduced because insects, fungi, weeds and microorganisms build up resistance to them. "Such resistance is based on hereditary characteristics in certain individuals within populations. It is transmitted genetically and so repeated application leads to the buildup of a resistant pest population by a process similar in all ways to natural selection."[16] What I would call "techno-agriculture" needs more and more pesticides more and more often with less and less effect and hence may be regarded as "hooked" on pesticides.

But is is not only pesticides and fertilizers which become increasingly necessary to grow food; the food industry increasingly has recourse to artificial preservatives in order to keep food fresh during transportation and storage; it adds artificial colorants to render it attractive on the store shelves and to titillate the prospective buyer's acquisitive urges; it enriches food with synthetic vitamins to render it more nutritious.

In short: the food "industry" "manufactures" (rather than grows) food which tends to be constituted more of synthetic than of natural ingredients. This has become a necessity, for the intensive use of agrochemicals tends not only to destroy the soil structure but also to lower the nutritional quality of the food. There is no evidence that agrochemically induced abundant crops are also greater in food value.[17] Moreover, the development of commercially improved food varieties, such as vegetables or fruits which are genetically selected for such commercial values as size, appearance, color and texture, often diminishes their nutritional content.[18]

Modern day food technology is a special aspect of techno-economics and as such it is concerned with the quantity and efficiency of food production, and with the marketability and consumption of its synthetic edibles rather than with the nutritional quality, naturalness and health-preserving traits of organically grown food. The food industry's and agriculture's techno-economic values purport to determine in obstruse ways what food additives and what pesticides are harmful or harmless in what doses. Notwithstanding the organic food counter-movement, techno-economic food production suavely manipulates

what the public at large eats. And as a result of techno-economic agricultural practices, pesticides threaten to become more dangerous in the long run to the human species than to the pests for which they were intended.[19]

As to food additives, they may cause allergic reactions. Also, while they may seem relatively harmless to the organs of the body, they have often proved to be carcinogenic or mutagenic on the cellular level of life.[20] Moreover, food additives "may produce insignificant or controllable effects when studied in isolation; brought into combination with various chemicals in food, however, [they] may give rise to toxic compounds. The body, in turn, may make a toxic additive more poisonous in the course of changing it during metabolism."[21]

Today, food technology uses several thousand chemicals for the production and distribution of commercially prepared food; some of these are purposely added as preservatives, buffers, emulsifiers, neutralizing agents, sequestrants, stabilizers, anticaking agents, flavoring agents, and coloring agents; some consist of nutritional supplements (e.g., vitamins) and the rest are "indirect additives," i.e., substances (detergents, germicides, etc.) which get into food by way of packaging materials and processing equipment.[22] Moreover, many of these synthetic substances are largely unknown as to their biochemical and metabolic activity.[23]

With this in mind, I may conclude, with Bookchin, that the techno-economic food industry "has taken a wrong turn. Having

achieved the abundance of nutriment it once promised, it threatens to become another factor imperiling [human] health and well-being."[24]

As to capital- and energy-intensive techno-agriculture, we must assert that it fares as badly as food technology. Aside from the public health hazards it creates through its indiscriminate use of pesticides, it defeats itself through its intensive monocultural practices. A monoculture is a highly simplified and vulnerable ecosystem which for want of animal and plant diversity creates highly favorable conditions for an infestation by a species which, when it is without natural enemies, turns into a pest.

Techno-agricultural monoculture is high-yield oriented. While over-fertilization and pesticides tend to destroy the texture and vitality of the soil, while tractors are compacting and asphyxiating it, techno-agriculture keeps on modelling itself on industrial manufacturing. According to Bookchin, "tens of thousands of acres are planted and harvested on a factory schedule, in some cases to meet the daily production requirements of a nearby food-processing plant. Every method that will 'hurry along' cultivation and reduce its cost is eagerly seized upon. Food cultivation is rigorously standardized, even 'time-studied.'"[25] The traditional farmer becomes a business-minded agricultural engineer whose reverence for the land cannot go beyond a mere appreciation of its commercial value. Such a narrowly circumscribed vision is concomitant with a techno-agriculture and food technology which are the handmaidens of ravenous and sprawling monsters, cancerous nodules on the earthscape: the

megacities pregnant with throngs of urbanites and suburbanites for whom the sacredness of the land has been submerged in the secularism of "civilized" living and subordinated to the needs and dictates of the city.

## 28. Megacities and Population Pollution

> It is all but impossible to avoid the highway out of town, for here, arrayed in all its glory, is the quintessence of vulgarity, bedecked to give the maximum visibility to the least of our accomplishments.
>
> Ian L. McHarg[26]

> [Human] dependence on the natural world became invisible; it became theoretical and intellectual in character, the subject matter of textbooks, monographs and lectures.
>
> Murray Bookchin[27]

While techno-economic countries are in the process of reducing nature to a factory, while agriculture, forestry and fisheries industrialize their practices, humans conglomerate and urbanize within overly noisy, simplified, unstable, monotonous and extremely vulnerable megacities, human ecosystems, which we might call sociosystems. The human-induced imbalances in the ecosphere have their counterpart in the imbroglios of the sociosphere; in fact, the expanding megalopoles are themselves metamorphosing into necropoles and are at the root of an inexorable, exacting and ever-extending pressure on the ecosystem.

In addition to the ecological demand they exert on the land, megacities pollute air, water, soil, plant and animal organisms

directly via their industrial effluents, waste disposals and consumption patterns and indirectly via the techno-agriculture and food technology on which they have come to depend.

Moreover, megacitizens often live in utter ignorance of ecosystemic processes and maybe, worst of all, they have come to experience their synthetic environment as normal, as real and complete in itself. This is so because techno-economic values associate human progress with the subjugation of nature to the dictates of the artificial environment. Everything that is unspoiled or primeval is a blemish on our techno-economic dominance over the earth, which must be wiped out from our consciousness or remedied as soon as possible so that we can, at last, peacefully live, securely tucked away within the artificiality of our civilization. "The more artifice," writes Roszak, "the more progress; the more progress, the more security,"[28] the more security, the less need for ecological knowledge and nature experiences. As we gradually encapsulate ourselves within an increasingly synthetic environment, the latter, "home-made" as it is, becomes normal and real and is experienced as complete in itself.

In the absence of healthy ecosystems, megacitizens will come to accept their urbanized sociosystem as <u>the</u> natural way to live; a natural way however which is entirely dependent on the land and ocean for its food and water, and upon the forests for its air. And even if this dependence is realized, it is not experienced for it has become an abstract notion. With the exception of a few sickish

patches of urbanized nature (city parks for example), nature has been driven back from megacities to make space for the "concrete" world of highways, parking lots, business silos and toxic "death-mobiles."[29] Moreover, megacitizens often haven't the faintest idea what the animals and plants from which their food is derived look like.

Small wonder, then, that the ecosystem and social system are at odds. Rather than functioning naturally by means of diversity, stability and complexity, both systems grow increasingly synthetic, increasingly pathological. "The all-pervading disease of the modern world," wrote Schumacher, "is the total imbalance between city and countryside, an imbalance in terms of wealth, power, culture, attraction, and hope. The former has become over-extended and the latter has atrophied." Rural life may have lost its savor, but healthy rural areas are nevertheless indispensible for the health of the city, since the land is the primary producer and thus the precondition of all economic life. "The prevailing lack of balance, based on the age-old exploitation of country [people] and raw material producer, today threatens all countries throughout the world, the rich even more than the poor."[30]

In both techno-economic as well as non-techno-economic countries, people head towards the cities in which they hope to find better or perhaps more job opportunities. Yet, there are too many applicants for too few jobs within the highly mechanized, capital- and energy-intensive techno-economic urban system. Add high density

as a polluting effect on the mental, physical and social well-being of urban-suburban populations and you are likely to get demoralization, and epidemics of crime, unemployment, delinquency, drug addiction, alcoholism, mental diseases, paranoia, loneliness and alienation as the acute symptoms of population pollution which seems to be the inevitable result of a techno-economic sociodevelopment. The latter combined with population pollution induces the breakdown of the checks and balances of a healthy natural ecosphere which furthers population increase and thus makes the world-wide population explosion an effect rather than the cause of our increasingly degenerating natural environment. Under such conditions human health becomes the exception rather than the rule.

## 29. Health: The Unknown Ideal

> It is sad to contemplate that we will probably have to contaminate the planet to some degree irreversibly by radioactivity before much of the public can be brought to indignation.
>
> John Gofman[31]

> The more immediate symptoms of low-level, chronic poisoning, such as persistent fatigue and a continual sense of ill-being, are so common that they are no longer taken seriously.
>
> Murray Bookchin[32]

Urban sprawl, techno-agriculture, food technology and population pollution: all contribute their share to a humanity which overtly and covertly suffers from a great many mental, physical and social diseases. Take, for example, the physical disease cancer

which has taken on epidemic proportions. "Today, one American in four will get some form of cancer in their lifetime. At a major conference of cancer research in 1976, the medical people attending agreed that a full 90% of present cancers are induced by chemicals added to our environment." Thise include mainly food additives, insecticides and artificial fertilizers, industrial chemicals (like PCB's and Kepone) and dyes. In addition, "radiation created by the nuclear power program, and the fallout still in circulation from above-ground weapons testing," have been established as carcinogenic. The same holds true for cigarette smoking.[33]

Bookchin convincingly argues that the rise in the rate of lung cancer over the past fifty years can be attributed neither to improvements in diagnostic techniques, nor to the increased longevity of the population, nor to cancers that begin in one part of the body and later migrate to the lungs, but has to be ascribed to changes in the human environment and way of life, notably increased smoking and air pollution.[34] Moreover, "socioeconomic factors have been found to play a role in the incidence of lung cancer. It is a tempting hypothesis that susceptibility to the disease is increased by poor nutrition, economic insecurity, and low physical resistance."[35]

Thousands of synthetic chemicals with undetermined and perhaps undeterminable metabolic properties enter our soils, water, air, and food/beverage supplies. "Some may be co-carcinogens; these lack significant cancer-causing properties of their own but increase the potency of known carcinogenic agents. Others may be weak carcinogens

whose cancer-causing effects are additive and synergistic."[36] Moreover, Hueper warns us that during food processing procedures or during the preparation of food in the kitchen "originally non-carcinogenic additives and contaminants may interact with each other or with food constituents and form new compounds possessing carcinogenic properties in the foodstuffs."[37]

Often cancers develop insidiously and bear their malignant fruit only many years after their onset. According to Bookchin, "we may pay a heavy price in human life, not so much as a result of brief exposures to a few potent carcinogens as because of the exposure of millions of individuals to small quantities of 'harmless' compounds over long periods."[38]

So much for the hazards of human "chemo-mania."[39]

A few words, now, about our radio-mania which has enormously increased the amount of radioactivity in our environment. Aside from natural "background radiation [which] comes from cosmic rays, radioactivity in rocks, and radioactive elements in food and water [and which] constitutes the radiation to which [humans have] evidently adapted [themselves] over long periods of biological evolution,"[40] the nuclear industry, medical and other scientific research practices, the military war machinery and commercial electronics have added and still are adding, intentionally, inadvertently and/or accidentally dangerous radiation to the ecosphere. Besides their carcinogenic and mutagenic effects on all living animal and plant cells, tissues and organs, radioactive isotopes are always potentially harmful if

not lethal to humans. In fact, "all the evidence, both from experimental animals and from humans, leads us to expect that even the smallest quantities of ionizing radiation produce harm both to this generation of humans and future generations. Furthermore," write Drs. Gofman and Tamplin, "it appears that progressively greater harm accrues in direct proportion to the amount of radiation received by the various body tissues and organs."[41]

Accidental leaks along the radioactive fuel cycle, careless and ineffectual radioactive waste storage techniques, an unfounded anticipation of an unproblematic waste disposal, and routine radiation emissions from nuclear power stations continuously menace our well-being and induce subclinical as well as clinical physiological effects. The latency period, i.e., the time between exposure to ionizing radiation and clinical diagnosis of radiation effects, may vary from minutes to decades. For example, "according to an important study by Dr. Gofman, past weapons tests have put so much plutonium into the lungs of residents of the northern hemisphere that 116,000 people in the U.S., and about one million people in the entire northern hemisphere, 'have been committed to plutonium-induced lung cancer.'"[42]

Despite all these potential and actual hazards our social and political leaders keep on indulging in "an overly rhetorical social commitment to ecological values."[43] This may be the case in part because much of the chemical and radiation pollution is what I would call "clean pollution" meaning that it shows no visible dirtiness

while it induces quite often subclinical illness which escapes medical diagnosis for decades and thus poses no clearcut reason for alarm until it is too late.

Subclinical diseases, chronic diseases and degenerative diseases (cancer or coronary illnesses increasingly invade the younger age groups of human populations)[44] are in great part environmentally induced. What may pass as healthy organs or organisms in routine medical examinations, may be ill and defective from a cellular or molecular perspective. Our synthetic environment as well as our "modern" life-style have to be blamed for our declining fitness. "From the extremes of malnutrition and arduous labor, the environmental pendulum in the Western world has begun to swing to the extremes of overnourishment and physical inactivity," and, as a consequence, "the traditional image of a healthy [person]--a plump and relatively inactive individual with a hearty appetite--" has been replaced by a "new emerging image of a healthy individual [who] is represented by a lean [person] who eats sparingly and who engages in a great deal of physical activity."[45]

But what is health and what is disease? Modern technomedicine tends to draw a sharp line between the two. Writes Bookchin: "Many physicians tend to approach the human organism with a fixed threshold of illness in mind. On one side of the threshold, the body is conceived as being in good health; on the other side, it is diseased and requires treatment." Once, according to this view, a certain degree of physical disequilibrium and damage is reached, the body is regarded as ill. This sharp-line approach is in great part

due to "a lack of interest in the 'healthy' side of the threshold, where the conditions for illness are slowly created by insidious changes in the organisms. Ignorance is perpetuated by a complacent indifference to many of the basic problems involved in the transition from health to disease."[46]

The preventive aspect of medicine is still in its infancy. Techno-medicine pays court to the techno-economic value system which creates, in the first place, a host of the diseases the former sets out to cure. Many of our pharmaceutical products aim at alleviating the ailments which the effluents of the pharmaceutical industry induce via the environmental pollution of air, water and soil. Drugs are used to fight the negative effects of other drugs and on and on goes the vicious circularity of a techno-economic socio-development in which the needs of the industrial state are placed before the needs of the population at large, and in which corporate planning strategies perniciously ignore the most compelling laws of ecology.

Natural processes which have nurtured life for eons are undermined by techno-economic thinking. The harmony between human behavior and nature's way is necessary for survival, yet absent in "modern" countries. Nearly all the abuses we inflict upon the environment are already or will soon be returned to us without any leeway for the correction of our errors. And yet we continue to "demand evidence of a marked injury to [humanity's] natural surroundings before we are ready to agree that there exist problems that require solutions."[47] After all, so the argument goes, people today

have, on the average, a greater life expectancy than, say two generations ago. True, but we must bear in mind that the increase in longevity results from the fact that "more children survive the diseases of infancy and adolescence today than two generations ago. What this means, in effect, is that if it weren't for the extraordinary medical advances and great improvements in the material conditions of life, today's adult might well have a much shorter life span than his[/her] grandparents had. This," according to Bookchin, "is a remarkable indication of failure. It suggests that modern [humanity] would find it very difficult to survive outside a medical and pharmaceutical hothouse."[48]

Indeed, our encapsulation within the synthetic environment prohibits an ecologically sound and viable harmony between ecosystems and socio-systems. And that is why maybe most of us do not know anymore what it means to be healthy. For want of health, the unknown ideal, we put up with a surrogate health, which like the socio-development we pursue and endure and like the techno-economic environment we make our home in, prevents us from biologically and culturally adapting ourselves to natural-organic evolutionary processes, and thus from grasping the true meaning of health.

## 30. The Collapse of the Techno-Economic Sociosystem

> No society prior to the competitive, quantitative, and atomized one in which we live today has so thoroughly devalued contoured space, community, diversity, roundedness of human activity, and qualitative criteria of excellence.
>
> Murray Bookchin[49]

> The vast and chaotic human societies in which we are living are by no means normal.
>
> Blueprint for Survival[50]

Population pollution, mental, physical and social diseases have brought the megacities and thus the prevailing techno-economic sociosystem to the verge of collapse. This was to be expected, considering that we regard our species as "exempt from the laws governing all the other parts of the ecosphere."[51] We still tend to think that life and matter can be neatly assigned to radically different categories. Yet, "when Köhler synthesized urea, the barrier between the 'organic' and the 'inorganic' was suddenly shattered, as was that between the 'animate' and 'inanimate' when the virus was found to manifest certain features associated with life on being confronted with a source of protein, and at other periods to display the normal behavior pattern of a crystal."[52]

The evolution of life is a flowing process, and no species, not even the human one, could have come about without that flux. Seen thus, humans are not unique. They may simply be regarded as "more 'intelligent,' and that is about all that can be said."[53] And even to assert that humans are more "intelligent" than other

life-forms, is, in the light of our previous discussions anthropocentrically presumptuous.

Compare the industrial state to the still extant hunter-gatherer societies such as the Bush-people of the Kalahari or the former Plains Indians of North America; mark that, according to Slater, "malnutrition and famine are less common in hunter-gatherer societies, for example, than in agricultural ones,"[54] that they still hold sway over countries under the yoke of techno-imperialism, and that overfed megacitizens ail from malnutrition, too, and our notion of progress becomes highly doubtful. Furthermore, and in view of the fact that "human societies for 99.75 percent of their tenancy of this planet behaved as an integral part of our ecosphere (before the invention of agriculture 10,000 years ago and industry 150 years ago), it is unreasonable to suppose that such behavior is not subject to its laws,"[55] and that techno-economic societies could function healthily within an organically evolving ecosphere. Human techno-economic societies are atypical societies; they create their own synthetic environment in utter disregard of eco-evolutionary principles. As a result they lose their self-regulating power. New artificial checks and controls need to be instituted which create social problems.

In self-regulating traditional societies, crime is, according to Goldsmith and others, "in fact, an extremely rare occurrence in spite of the fact that there are no policemen, lawcourts, tribunals, and such."[56]

In techno-economic societies, what they term systemic controls like ridicule, fear of ancestral spirits or ostracism, are replaced by authoritarian and (blatantly or suavely) coercive technocracies and law and order institutions: these are the asystemic controls. "By causing the disintegration of a society, by overloading the social system with too many people, or by increasing mobility so as to prevent their proper socialization, one is reducing the power of public opinion, and thereby the society's capacity for self-regulation." A-systemic controls become then prevalent: more government, more bureaucracy, more laws, more tribunals. These, in turn, render the systemic controls ever more redundant, and further reduce a society's capacity for self-regulation. "A society used to being run in this manner ceases to be capable of running itself." In other words, "real democracy is not possible, since the essential social structure for rendering it possible does not obtain. A mass democracy is, in fact, a contradiction in terms." In general, we can say that "the higher the entropy of a social system, the greater must be the need for asystemic controls of which the most extreme kind is a dictator."[57]

The dictator may be an individual, the people's party, a religious scripture or a "suave technocracy." In any case, asystemic dictatorial controls involve a drastic simplification of a society's systemic control mechanisms and therewith a serious reduction of its stability as well as a pernicious increase in its vulnerability.[58]

Techno-economic imperialism tends to subdue all sociosystemic divergences to the rhythm of megacities, in which the human and

material energy-flow is bridled, scheduled and channelled according to quantitative economic factors. The result: a sickish sociosystem which harbours emotional disturbance, various forms of escapism, defeatism, quietism and above all, alienation and loneliness.

In a techno-economic sociosystem in which "prestige is achieved in a variety of ways, including the right education, entering a socially acceptable profession and, perhaps most important of all, making money,"[59] the unsuccessful, the failures, the irrelevant, the obsolete, the weak and the meek, i.e., the anonymous masses which form the lethargic torso of a society, "will be characterized by a general feeling of aimlessness, a frantic, almost pathetic search for originality, overpreoccupation with anything capable of providing short-term entertainment, and beneath it all a feeling of hopelessness of the futility of all effort."[60] In an asystemically controlled sociosystem "crime is part of the price of affluence, or, more precisely, of the social disintegration that affluence gives rise to."[61]

And last, but not least: suicide. According to Emile Durkheim, who regarded suicide as the ultimate manifestation of anomie, "the suicide rate was particularly low in poor rural communities where social structures were intact, and high in disintegrating affluent societies, especially among the working classes and even more so among immigrants." He considered suicide to be inversely proportional "to the degree of integration of the social groups to which the individual belongs."[62]

With the foregoing in mind, I conclude that the techno-economic sociosystem is a bleeding wound within the ecosystem,

that its quantity- and growth-oriented premises are the foundations of a short-lived synthetic socio-developmental euphoria which are in the process of disintegrating and about to collapse.

We may say that the collapse of the sociosystem will be partially due to imbalances in the ecosystem which in turn are due to imbalances in the sociosystem. The extreme simplification of both the eco- and sociosystem leads, according to Bookchin, "to a crucial decline in civic and social standards. A mass concept of human relations--totalitarian, centralistic, and regimented in orientation--tends to dominate the more individuated concepts of the past. Bureaucratic techniques of social management tend to replace humanistic approaches. All that is spontaneous, creative, and individuated is circumscribed by the standardized, the regulated, and the massified. The space of the individual is steadily narrowed by restrictions imposed upon him[/her] by a faceless, impersonal social apparatus. Any recognition of unique personal qualities is increasingly surrendered to the needs--more precisely, the manipulations--of the group, indeed, of the lowest common denominator of the mass. A quantitative, statistical approach, a beehive manner of dealing with [humans], tends to triumph over that precious [individuated]-qualities approach which places its strongest emphasis on personal uniqueness, free expression, and cultural complexity."[63]

If we continue to superimpose an already crumbling synthetic environment onto what remains of a relatively unimpaired natural-organic environment and thus undo the ecological web which has

supported humanity for countless millennia "it is by no means fanciful to suppose that the preconditions for higher forms of life will be irreparably destroyed and the earth will be incapable of supporting [humans]."[64] In conclusion, I may assert with Bookchin that "environmentally, we are a beleaguered species--not by natural forces that inflict material scarcity and toil as unavoidable features of the human condition, but by social forces that create irrational relations and requirements as utterly needless features of our lifeways."[65]

Our synthetic techno-economic sociosystem and our synthetic life-styles are incompatible with creative and organic self-actualization processes on behalf of humankind. How could we ever reestablish the harmony between the ecosphere and social systems which have gone astray within the evolutionary history of matter, life and thought? What could there be? This I shall now attempt to outline.

b. What There Could Be

> What time has verified is a mode of thought--ecological in its natural outlook, libertarian in its social perspectives, and utopian in its ideals.
>
> Murray Bookchin[66]

31. Anarchism: The Reconstructive Ecology

> The anarchist concept of a balanced community, a face-to-face democracy, a humanistic technology, and a decentralized society--these rich libertarian concepts are not only desirable but they are also necessary.
>
> Murray Bookchin[67]

> Ecology is intrinsically a critical science--in fact, critical on a scale that the most radical systems of political economy failed to obtain--yet it is also an integrative and reconstructive science.
>
> Murray Bookchin[68]

When I looked at what there is concerning the contemporary environmental situation, I used ecology to analyze critically the relationship between the ecosphere and the human sociosystems. Indeed, I assigned to an usually descriptive and explanatory science a critical role, for ecology, according to Bookchin, can derive "its critical edge not only from the fact that it alone, among all the sciences, presents [an] awesome message to humanity, but because it also presents this message in a new social dimension."[69] Summed up the "critical message" of ecology could be as follows: "if we diminish variety in the natural world, we debase its unity and wholeness. We destroy the forces making for natural harmony and

stability, for a lasting equilibrium, and what is even more significant, we introduce an absolute retrogression in the development of the natural world, eventually rendering the environment unfit for advanced forms of life."[70]

Yet, fortunately, ecology lends itself not only to criticizing what there is, but also to reconstructive purposes in view of what there could be with regard to an integration of the human sociosystem with the non-human ecosystem. This then is the "reconstructive message" of ecology: we must promote conservation and the unity, stability and variety of ecosystems and sociosystems integrated with each other.[71] In other words, we must further an ecological solidarity between the human sociosystem and the ecosphere.

Techno-economic "ingenuity," the mega-cities, techno-agriculture, population pollution and our synthetic environment, all have reached or are rapidly approaching their limits. Indeed, they have become regressive in evolutionary terms and oppressive to the individual, for they erode not only the viability of all life-forms but also the creativity of the human species.

The planet could be a community of life rather than a warehouse for a helter-skelter assemblage of synthetic and organic fragments of existence. Smoothly functioning ecological cycles, the respectful use of energy, a soft individualism which carefully and gradually dissolves the mass and consumer society, an ecologically sound, eco-intensive and humanly comprehensible small-scale technology; decentralized and participatory self-governments, an

environmental education which teaches ecology as a "broad, philosophical, almost spiritual, outlook toward humanity's relationship to the natural world,[and] not merely [as] a scientific discipline or pragmatic technique"[72]: these should be our ideals. A tender-loving, caring, creative life- and community-abiding humankind, empathically communicating and turning a deaf ear to the abstract concepts of hierarchy, property, law and money, is not a grandiose and pathetic vision, but a real possibility, indeed the very precondition for a crippled ecosystem to regenerate and for human life to evolve healthily. In Bookchin's terms: "What is most significant about ecology is its ability to convert [the] rejection of the status quo, often nihilistic in character, into an emphatic affirmation of life--indeed, into a reconstructive credo for a humanistic society."[73] From an ecological viewpoint, diversity, harmony, balance and integration are "achieved not by mechanical standardization, but precisely by its opposite, organic differentiation."[74]

Ecological differentiation could be the new measure of sociosystemic progress. Just as much as a climax ecosystem is the most stable, diverse, complex and integrated ecosystem in a series of developmental ecosystemic stages starting with the pioneer stage, so a climax sociosystem could be the most stable, diverse and complex in a succession of socio-developmental stages, provided such a human community is smoothly integrated within the ecosphere. A genuine human community should be, according to Bookchin, "an expanding whole . . . created by the diversification and enrichment of the parts."[75]

Such a self-actualizing community is an anarchist community. An anarchist community, contrary to false, prejudiced and uninformed popular belief, is not a chaotic society of immoral and reckless degenerates. An anarchist community is communitarian, i.e., it is, in Bookchin's words, "not only a stateless society but also a harmonized society which exposes [people] to the stimuli provided by both agrarian and urban life, physical activity and mental activity, unrepressed sensuality and self-directed spirituality, communal solidarity and individual development, regional uniqueness and world-wide [family]hood, spontaneity and self-discipline, the elimination of toil and the promotion of [the crafts]."[76]

We ought to be wary of cities the size and population of which preclude a face-to-face personal, even familiar, relationship among citizens. We direly need to reduce our cities in size so as to minimize asystemic controls, to solve our pollution and transportation problems and to create healthy communities. We must, according to Bookchin, humanize humanity, humanize nature and naturalize humans and society.[77]

Self-sufficiency, behavioral flexibility and an eco-oriented dedication: such would be some major traits of an eco-community which respects the organic interrelationships that sustain it and which allows for the rotation of civic, vocational and professional responsibilities among its eco-citizens. Such a rotation would stimulate and round out new dimensions in an individual's self-development and lead to more complete individuals in a more complete

multi-dimensional society.[78] This would bring us to what H. D. F. Kitto called "the generous Homeric conception of aretê as an all-round excellence and an all-round activity. It implies a respect for the wholeness or the oneness of life, and a consequent dislike of specialization. It implies a contempt for efficiency--or rather a much higher ideal of efficiency; an efficiency which exists not in one department of life, but in life itself."[79] To which Bookchin adds that "an anarchist society, although it would aspire surely for more, could hardly hope to achieve less than this state of mind."[80]

## 32. Eco-Agriculture and Eco-Technology

> What is advocated . . . is not that [humanity] abandon science, technology, or the effort to develop, but that [it] subordinate these to ecological values without which development becomes a destructive process.
>
> Denis Goulet[81]

> We must beware of those "experts" who appear to advocate the transformation of the ecosphere into nothing more than a food factory for [humans].
>
> Blueprint for Survival[82]

If it is true that, according to Goulet, "civilizations reveal the nature of their goals and values in the environmental condition they create,"[83] and if we regard present conditions as ecologically disastrous and as hazardous to human health, we must conclude that the techno-economic goals and values of our "modern" societies are inadequate to insure the well-functioning of natural-organic processes. Case in point: the bureaucratized-centralized

techno-agriculture Western nations indulge in and try to impose on traditional societies, and which tends to destroy the regenerative powers of ecosystems.

The same guidelines which we should go by with regard to the ecosphere ought to be respected in our "management" of an agro-ecosystem. An eco-agriculture which would do away with fragile mono-cultures, could be based on the principles of ecological stability, complexity and variety, and produce organic, safe and highly nutritional food. An eco-agriculture would attempt to restore soils and minimize, if not eliminate, the destruction of the soil texture as well as the use of additives and fertilizers; it would recycle organically produced "waste" rather than disperse non-biodegradable synthetics. It would be more likely to grow food plants resistant to the various diseases which quite often are the outcome of techno-agricultural practices.

Population pollution, social disintegration and mass starvation could be checked by eco-agricultural practices which would keep the health of the land and the health of human communities in a harmonious negative feedback relationship. Moreover, traditional ecological knowledge would be preserved and non-industrial countries would become independent of the expensive agro-technology, synthetic fertilizers and pesticides provided by the techno-economic agro-business.

A creative eco-agriculture which envisages the cultivation not only of high quality organic food crops but also of the farmer's

sense of competence "presupposes a far-reaching decentralization of agriculture. Wherever feasible, industrial agriculture must give way to soil and agricultural husbandry; the factory floor must yield to gardening and horticulture . . . the land must be cultivated as though it were a garden."[84] To promote, in food cultivators, a high degree of sensitivity towards the land and its products, agriculture must be reduced to a human scale; it must be brought within the scope of the individual. "To meet the demands of an ecological approach to food cultivation, agriculture must be rescaled from huge industrial farms to moderate-sized units."[85]

Land management, water management and forest management, in short all natural resource management ought to pay heed to our reconstructive and integrative ecology. Liberatory ecocommunities and soft, appropriate human-scale and eco-intensive technologies would challenge the (capitalist or socialist) techno-economic ideal of agriculture. Here are some of the guiding standards of a soft eco-technology taken from a larger list of criteria by Robin Clark: low or no pollution rate, reversible materials and energy sources only, functional for all time, low specialization, operation modes understandable by all, decentralist, labour intensive, steady state economy, and weak or non-existent work/leisure distinction.[86]

In contrast to techno-economic, mechanistic,capital-, energy-, fertilizer- or pesticide-intensive technology which is anti-ecological, eco-technologies answer the exigencies of millennia of organic evolution. They have been practiced for most of humankind's

history and have prospered on negative feedback relationships. With our present day knowledge we could vastly improve on them without offending any ecological principles.

Whatever our applications of eco-technologies, we would have to keep in mind that they are meant to complement, not to displace, organic eco-evolutionary processes; that they should help us to "design with nature"[87] rather than design against it or for us.

## 33. The Fitting City and Creative Health

> If we can create the humane city, rather than the city of bondage to toil, then the choice of city or country side will be between two excellences, each indispensable, each different, both complementary, both life-enhancing.
>
> Ian McHarg[88]

I have already pointed out that ecocommunities would have to mesh in with the ecosphere. Megacities would have to be gradually "dismantled" according to our ecological values. An "eco-city" would be an ecologically non-harmful conglomeration of "eco-citizens" running their society themselves by systemic internal controls rather than being run by a-systemic technocratic political institutions.

"Humane cities"[89] could be highly varied, colorful and spiritually rewarding, both from a cultural as well as from an ecological point of view. They could harbor rounded artists and craftspeople dedicated to its decorativeness. Life in such cities could be leisurely, relaxed and in pace with physiological cycles rather than

with the external impositions of agencies such as machines and bureaucracies; it would accelerate with periods of vitality and slow-down or halt with periods of lethargy.[90] Eco-cities would be imbedded within an agricultural matrix, both within easy access of each other. As soon as harvested, crops would find their way to the city marketplace and from there to the urban consumers.[91]

According to McHarg there are two conceptions of fitness: that propounded by Henderson which views the environment as "fit for life, for the forms which had preexisted, those which do now exist and those of the future,"[92] and that defended by Darwin which regards organisms and species as fit for the environment. Just as much as organisms and species adapt themselves to the environment and adapt the environment to themselves, so human sociosystems ought to adapt themselves to ecosystems and adapt ecosystems to themselves, provided that, and this is important to stress, both processes of adaptation are in line with ecological principles and values.

How does culture fit in here? "Tools of culture," writes McHarg, "are fundamentally no different than mutation and natural selection although they can accomplish change at a much greater rate." The creative test for a culture is to accomplish a creative fitting between itself and its environment. "This involves identifying those environments intrinsically fit for an organism or process, identifying the organism, species or institution fit for the environment and inaugurating the process whereby the organism and the environment is adapted to accomplish a better fitting."[93]

To build fitting ecocommunities we will have to understand the fitting processes between the ecosphere and human sociosystems. Health and vitality of both human and non-human organisms would be the crucial parameter for our reconstructive and integrative efforts. At the very least health would allude to, in Bookchin's words, "the absence of all the persistent pains, aches, tensions, and physical disturbances now accepted as a 'normal' part of life. A healthy body is not a burden; it does not provoke an irritating awareness of its presence without reason. When we are in good health, we sense that our bodies are completely at our command, that they are in the service of our purposes and desires."[94]

But, so we may ask, what would be the conditions to guarantee human health outside our synthetic environments? It seems that a harmonious interaction between humans and their biotic and abiotic environment in terms of well-balanced food webs, an adequate negentropic energy-flow leading towards stable, diverse, complex and climatic ecosystems, and a smoothly functioning geobiochemical recycling of nutrients would be the most appropriate and ideal way "to ensure that the creatures that eat each other, their substances and their wastes, be healthy in the first instance."[95]

Health, fitness and creativity: this is what we should promote to undo techno-economic society in favor of a libertarian community. Ecocommunities could further conviviality and vitality, rather than cure disease and desolation. They could foster health as emerging from a way of life which is healthy in all its aspects.

"Only a rounded and healthful [social and natural] environment that includes a sound diet of good foods, physical as well as intellectual activity, spiritual insight as well as unpolluted air and water--all of these and more--will yield a rounded and healthy human being" and vice versa.[96]

A well-rounded individual and society would self-actualize with serenity and intense vitality and would enjoy the adventure of a multi-dimensional life.

So far I mainly looked at what there is and what there could be with regard to economical, socio-developmental and ecological considerations. Albeit I necessarily included the human individual as an integral part of our social and ecological concerns, I did not treat him or her per se, i.e., from his or her point of view. That point of view is my last and very revealing indicator of the psycho-behavioral state of affairs of contemporary humankind. To this indicator I shall now turn my attention.

## D. The Psycho-Behavioral Indicator: Loneliness and Alienation

### a. What There Is

> It is testimony to some grandeur in the human spirit that they evidence as much kindness, concern, and high-mindedness as they do, for there is absolutely nothing in this society to encourage any humanity or decency in individual behavior.
>
> Murray Bookchin[1]

### 34. Human Obsolescence

> Never before have personal relations become so impersonal and never before have social relations become so asocial.
>
> Murray Bookchin[2]

> A [human] is destroyed by the inner conviction of uselessness.
>
> E. F. Schumacher[3]

My critical ecological view of the human sociosystem and the ecosystem allowed me to discuss the deplorable state of physical health which has become second nature to a host of techno-economic megacitizens and which is indicative of the perilous misfit between the two systems. I shall now look at the psycho-behavioral consequences of humanity's attempt to displace the grand design of nature by its synthetic sociosystemic artifact.

The lack of a satisfactory social environment is a bitter day-to-day reality for the poor as well as the affluent denizens of a sprawling synthetic environment. The expanding scale of its techno-economic production, distribution and consumption patterns encourages

a never-seen-before mobility which over-extends and breaks up family and community bonds and thus prevents a healthy, creative and enduring socialization process from developing.

Unsocialized or poorly socialized humans are culturally rootless and easily shapable into homogenous techno-economic production and consumption units. They are colorless sociosystemic and ecosystemic barbarians living by a crude industrial value system. They are the abject subjects of an "objective" technocratic social machinery. In a "production for production's sake"-oriented techno-economy they become themselves technocratically planned and engineered machines, human machines. The ideal human of any techno-economic bureaucracy is deanimized, unsensuous; s/he is a social void; a nobody without social dimensions; an abstraction without emotional content; a spiritual chimera and statistical fiction; an acquiescent stimulus-response mechanism.

The devaluation of the crafts in favor of a docile servility to machines brought about human obsolescence; according to Bookchin, that decline "from an active to an increasingly passive personality, is completed by [a human] qua consumer--an economic entity whose tastes, values, thoughts and sensibilities are engineered by bureaucratic 'teams' in 'think tanks.'"[4] Industrial civilization and technology have been transformed into a force above humans which orchestrates their lives within a social machine which enforces what Mary Daly calls "robotitude," namely "the reduction of life in the state of servitude to mechanical motion."[5]

In such a robotitudinal, megacivic machine the sociocultural human relationships (mediated by persons) of traditional societies bear little relevance to daily affairs. In the busy world of the megacity, human relationships have regressed or are repressed to mere commodity relationships, to impersonal (money, object) exchange relationships between hierarchically institutionalized, rubricized, sexless and ethically neutered techno-economic functionaries. Concomitantly, a great majority of inexpert humans are rendered obsolete and expendable. Yet, while many among them have complied to the technocratic status quo, there remain an important few who still struggle against industrial dullness and spiritual lethargy. These humans still hold the banner of defiance amidst a crushing flood of apathy and boredom sweeping the techno-economic wasteland.

## 35. Bigness and Individualism

> It is individualism itself that produces uniformity.
> Philip Slater[6]

> By all but the pathologically romantic, it is now recognized that this is not the age of the small [hu]man.
> John Kenneth Galbraith[7]

Many of the contemporary megacitizens do not go out of their way to make a living; they struggle, sticking by "their" paths, abiding by the techno-economic channels open to them. Others struggle, too; but their battlefield lies beyond the well-worn technocratic routes. The former fight the competitive rat-race in

the pursuit of an elusive happiness; the latter wage war against the megacities' blindness to natural beauty and their deafness to the cries of an ecosphere in pangs of dissolution. Their common problem, whether they know it or not, is the bigness of the techno-economy they live in. With its exclusive orientation towards mass production, industrialism makes boredom a way of life among its spiritually defunct megacitizens; it imposes human conformity among strangers in a strange sociosystemic land while it destroys diversity in the ecosphere. Indeed, "both person and planet are," according to Roszak, "threatened by the same enemy. The bigness of things. The bigness of industrial structures, world markets, financial networks, mass political organizations, public institutions, military establishments, cities, bureaucracies. It is the insensitive colossalism of these systems that endangers the rights of the person and the rights of the planet." If you want to have a culprit, look at "the world industrial economy as a whole as it races toward global integration, whether under private or socialized auspices. . . . Here we have an economic style whose dynamism is too great, too fast, too reckless for the ecological systems that must absorb its impact."[8] Here we have a synthetic environment which is too grey, too complicated, too narrow for the majority of humans to live in with joy and enthusiasm. The new industrial state has grown, on a world-wide scale, into "a blundering creation that can no more handle the environment with discriminating care than it can deal with its makers as unique persons."[9]

No matter what the individual's dreams or the collective social ideology, bigness needs to be controlled and this is done easiest when techno-economic homogeneity and individual conformity are ubiquitous. What gets lost is the quality of individual and social life. "Whatever dwarfs us into unbecoming dependence or diminishes our personal dignity is too big. And our sense that it is too big to suit our personal sensibilities is the best warning sign we have that the enterprise is also a hazard to the environment."[10]

Assuming with Roszak that "the needs of the planet are the needs of the person,"[11] what are the needs of the person? Does a person need to conform, to isolate him/herself and abandon him/herself to the lethargy of boredom? No! But boredom, conformity and isolation, are they not phenomena megacitizens are striving for, judging from the appearances of their daily life-styles? Yes, but these megacitizens are not whole persons, but individualized individuals who suffer from "emotional constipation."[12]

According to Slater there are three human desires that are deeply thwarted by American culture and, I would add, by techno-economic culture in general: "(1) The desire for community--the wish to live in trust, cooperation, and friendship with those around one. (2) The desire for engagement--the wish to come directly to grips with one's social and physical environment. (3) The desire for dependence--the wish to share responsibility for the control of one's impulses and the direction of one's life."[13] These are desires the realization of which would contribute to one's becoming a person.

Now, what is a person, i.e., an individuated individual or a whole individual? When I will come to delineate what the psycho-behavior of humanity could be, I will sketch the traits of a person, of personhood. Suffice it, for now, to briefly state what a person is not. A person is not the product of politico-ideological "individualism"; an individualist is. What, then, is an individualist and what is politico-ideological individualism? According to Diamond, "ideological individualism is a reflection of what Redfield calls individualization; the latter is a symptom of civilization--and denotes the increasingly mechanical separation of persons from each other, as a result of the shrinkage and replacement of primitive, organic ties by civil, collective connections." Pathological loneliness and schizophrenia are corollaries of the civilized individualism which characterizes a rationalized, mechanized and secularized civilization in which a human "is always in danger of dissolving into the function or the status" or the stereotype. The individualist who is a "psychologically isolated individual, dulled by the division of labor, and threatened by leisure, yet somehow treasuring the idea that, in his[/her] name, society functions and battles are fought, is unknown in primitive society." On the contrary, it is our brand of "detached," "unattached" and "objective" "individualism" that "inhibits the growth of the indivisible person, that inner union of contraries. To paraphrase Erich Kahler, the history of civilization could very well be written as a history of the alienation of [humans]."[14]

Individualists are the result of a techno-economic individualization process which leads to personal conformity and to the nearly ubiquitous absence of a whole personhood among megacitizens. Megacivic bigness requires intellectual specialization and emotional conformity vis-à-vis techno-economic values, needs and aspirations. It is these isolated, fearful and conformist techno-economic individualists which relatively easily can coalesce into mobs: this holds true for the downtrodden ones in the ghettos of the megacities as well as for the middle or upper class students congregating by the thousands in a football stadium. Extreme individualization breeds the mob, i.e., in Diamond's terms, "a collectivity of detached individuals losing themselves in some furious activity, seeking an anonymous union; the mob is a civilized not a primitive phenomenon; it is the collective in frenzy, the repressed emotions explode outward without restraint or form, balance or responsibility"; the image of the mob is a part of our urbanized world.[15] Thus, individualism goes with bigness; bigness nurtures individuals who would rather compete themselves into loneliness, exhaustion, total self-negation or violence than go out of their way.

The indifference of techno-economic bigness breeds violence, and violence at a distance in particular. "Powerlessness," writes Slater, "has always been the common lot of most people, but in a preindustrial age you could at least locate the source of injury. If a nobleman beat, robbed, or raped you, you could at least hate the nobleman. If a hospital removes a kidney instead of an appendix, or

when there is only one kidney to remove, whom can we hate? The orderly who brought the wrong record? The doctor who failed to notice? The poor filing system?"

We find outselves more and more at the mercy of "mysterious, impersonal, and remote mechanisms that we have ourselves created. Their indifference is a reflection of our own.

"Our fondness for violence at a distance is both an expression of, and a revenge against, this indifference."[16]

Competition, scarcity, mobility, transience, loneliness, boredom, fear, narcissism, solipsism, alienation, violence and despair: such are some of the traits of an individualism which "is not a viable foundation for any society in a nuclear age,"[17] and which is not simply immoral but incorrect in that it is the very foundation of what it allegedly loathes, namely, impersonal collectivism.

## 36. Competition and Scarcity

> One cannot eat, drink or make love with a Nobel Prize, or a presidency, or a controlling interest.
>
> Philip Slater[18]

A paradox of techno-economics is that it collectivizes individualists. While it encourages the self-aggrandizement of (male much more so than female) individuals at the expense of other individuals, it homogenizes the competitors into an anonymous mass in which individuality is effaced. While many traditional societies may exert far more personal or direct pressure on an individual to mold

him/her into a more or less defined role of social conformity, techno-economic society may be regarded as allowing more leeway to an individual to pursue self-chosen ends. "But," writes Slater, "since the culture defines what is worthy and desirable, everyone tends, independently but monotonously, to pursue the same things in the same way. Thus cooperation tends to produce variety, while competition generates uniformity."[19]

Consequently, "individualists," despite their individualism, feel irrelevant and isolated. As their sense of themselves erodes, they seek ways of affirming it by competing harder; yet, their increased efforts but accelerate the very erosion they seek to halt. Competitive and individualistic technocrats as well as the consuming members of the new industrial state, "love bigness, mostly because they feel so small. They feel small because they're unconnected, without a place. They try to overcome that smallness by associating themselves with bigness--big projects, big organizations, big government,mass markets, mass media, 'nationwide,' 'worldwide.' But it's that very same bigness that rips away their sense of connectedness and place and makes them feel small. A vicious circle."[20]

Within that bigness individualist megacitizens try to "minimize, circumvent, or deny the interdependence upon which all human societies are based." A private house, a private means of transportation, a private garden and a private laundry become status symbols in the kingdom of unfettered greed. "An enormous technology seems to have set itself the task of making it unnecessary for one human being ever to ask anything of another in the course of going

about his or her daily business. Even within the family . . . each member should have a separate room, and even a separate telephone, television, and car, when economically possible." Yet, the more privacy we seek and get, the more alienated and lonely we become. The more alienated and lonely we become, the more competitive we act and the more psychologically withdrawn we become. "And what accidental contacts we do have seem more intrusive, not only because they're unsought, but because they're not connected with any familiar pattern of interdependence."[21]

While they delude themselves that they are "doing their thing," individualists mimic each other in their "pursuit of loneliness," fear and spiritual emptiness. They cheat themselves out of actualizing their potential for personhood; they petrify their passion, compassion and spontaneity into self-conscious pretenses of affective living. The last vestiges of authenticity flicker and fade within the individualist ethos.

Schooling and propaganda attempt to create the delusion "that only egoistic responses are spontaneous" and indicative of freedom, when in fact this is not so; for, according to Slater, "collective responses--helping behavior, nurturance, supportiveness, the assumption of specialized roles in group tasks, rituals, or games--" are just as spontaneous, natural and untrained, even among animals. In competitive, individualistic societies behavior is self-conscious and calculated. It allows people to "accommodate to others because they want to look good, impress people, protect themselves from shame and guilt, and avoid confronting people directly. In more organic

and cooperative communities people respond spontaneously to impulses that are neither selfish nor unselfish, but more directly from the heart." From which we may conclude that "cooperative societies are unassuming" and that "it's the competitive ones that are concerned with appearances."[22]

As techno-economic planning displaces cutthroat economic competition, the members of the industrial megacity identify themselves more and more with hierarchical social organizations and impersonal collectives whereby their genuine needs, aspirations and identities are displaced by symbolic "ersatz" needs, aspirations and identities. They "assume," according to Roszak, "prefabricated identities bound by custom and function." While they may "fatten their egos along with their purses," the leaders and celebrities of the new industrial state play only the assigned roles in which they function so as to "muster allegiance, ensure unity [and] enforce conformity." Yet, however enviable their role may seem to the mass of nobodies, these privileged few "do not enjoy the right to discover and become themselves. As much as the masses they lord it over, the elites of the Earth belong (in Marx's phrase) to the 'prehistory' of our species, the long, dreary chronicle of human underdevelopment."[23]

However, it is not only the "impersonal leaders" but also the "impersonal and impersonally lead" megacitizens who succumb to the power of individualism, who, according to Roszak, have their "personality warped beyond recognition by fear and defensiveness, harnessed to

the demands of industrial progress. Individualism drives the person into the narrow fortress of the ego and locks it up there, an isolated, opportunistic, ever-watchful presence. In the individual, no depth or mystery is permitted, no inwardness beyond secret and ulterior motives."[24]

Self-interest and self-importance and not inherent personal worth: such are the marks of the individualist who gauges his/her personal worth "by acquisition and conquest, by <u>having</u>, never <u>being</u>. And this is the very opposite of self-discovery; it entails subordination to an exterior, competitive standard. That is the heart of the matter. Self-discovery makes the person, but competition makes the individual[ist]. That is why individualism is as antipersonal as it is antisocial, as much an alienation from our own subjectivity as from our fellows."[25]

Antipersonal and antisocial competition for what? For symbols such as money, academic degrees, medals, awards and certificates. Competitors may subordinate themselves to exterior criteria "as objective as a simple measurement of speed, distance, amount, technical precision"[26] and size, or they may abide by selfish interior criteria which are narcissistic or solipsistic. But, whatever its standards, competition thrives on scarcity. Scarcity is essential to preventing permanent gratification and to harnessing an adequate supply of human energy for further production; it is the technocracy's tool of suave oppression and control. According to Slater, "bodily gratification is easily obtained, [so] in order to get people

to strive continually," restrictions are imposed to block gratification and to rechannel desire toward symbolical fantasy objects that are in principle unrealizable. "Hunger, thirst, and sexual desire in pure form can be slaked, but the desire for a body type that was invented by cartoonists cannot. Neither can the desire for fame, power, or wealth. These are invidious needs; they are satisfied only in relation to the deprivation of others. Furthermore, they're purely symbolic and hence have no endpoint. A [hu]man hooked on fame or power will never stop striving because there is no way to gratify a desire with a symbol."[27]

In a techno-economic civilization the opportunity for physical gratification is, in general and notwithstanding its vast qualitative differences, abundant, if not overabundant. Concomitantly, boredom with bodily gratification is common. As a result individuals do not compete for it anymore. Yet, they keep competing. What for? For something that is scarce. Why? So that production, consumption and acquisitiveness can keep the heart of the megacities beating. What enforces scarcity is the mediation of gratification by symbols. To be sure, Nobel Prizes and Olympic gold medals can be gained by a select few; yet even to those few they cannot be fully gratifying. Since they are invidious, they are elusive. Whatever we are competing for, be it fame, power, wealth or immortality, is, so I submit, a compensatory surrogate for an end which has been lost, suppressed or forgotten: psycho-spiritual gratification, be it in the form of love, exuberance, happiness, the sensation of freedom or enlightenment. In contrast to symbolic gratification, psycho-spiritual

gratification is not scarce in principle, is hindered by competition and requires for its fulfillment only the authentic experience of living.

As long as a great many humans continue to live for symbolic gratification rather than for psycho-spiritual gratification, they will remain enslaved in the fetters of individualism; as humans, institutions or nations they will fanatically compete themselves into an increasingly dissatisfying alienation which finds epidemic and endemic outlets in sexism, racism, agism, riots, warfare and a variety of masochistic and sadistic practices.

## 37. Isolation: The Effigy of Involvement

> No matter what realism we may display in technical areas, our approach to social issues inevitably falls back on a cinematic tradition in which social problems are resolved by a gesture.
>
> Philip Slater[28]

Competitive as they are,techno-economic citizens may desire involvement yet they remain detached. The "avoidance tendency" which, according to Slater,[29] lies at the very root of American culture may also be said to be a common trait of megacitizens. The automobile, the self-service store, the suburb, the naive reliance on technocratic government: these are the megacitizen's strategies to escape, avoid and evade the responsibility to confront sociopolitical and interpersonal problems directly. The aged, the infirm, the sick, the retarded and the criminals are discarded in institutional "toilets" according to "a pattern of thought that we might call the Toilet

Assumption--the notion that unwanted matter, unwanted difficulties, unwanted complexities and obstacles will disappear if they're removed from our immediate field of vision." And since our approach to social problems is to decrease their visibility, we cannot come to feel the need to acquire the "knowledge, skill, and motivation necessary to deal with them." Hence the thought that the trash in our streets could be the garbage we throw from our car windows cannot occur to us.[30]

While "evasion creates self-distaste as well as comfort,"[31] it also leads to a form of alienation in which the mediated spectacle of confrontation becomes the surrogate for the genuine experience of confrontation. Instead of a direct confrontation with a problem, we come to face it indirectly via the media which insinuate that we are "in" on the problem and need not further bother to experience it directly. "Thus the ultimate effect of the media is to reinforce the avoiding response by providing people with an effigy of confrontation."[32]

The effigy of confrontation, the effigy of concern, the effigy of involvement, the effigy of commitment: they are the warped attitudinal extensions of egos alienated by their competitive individualism. For synthetic megacivic individualists "solitude is nothingness and annihilating despair--and," according to Roszak, "all the more so as the awareness of death presses itself forward for recognition, because death turns everything the indivdiual[ist] values into total absurdity. So the individual[ist] experiences solitude as a crazy

and nauseating zero in the center of life's bustling business: a bottomless chasm in which there are no familiar landmarks, no sure directions."[33] The individualist needs and craves others for "competitive reference," recognition and "external status."

What individualism "wants of life is never solitude--which it finds wholly meaningless, wholly terrifying--but only isolation: a secure ground in the midst of combat. The ego in us is a creature of isolation, standing off from the rivals it needs to lend it a sense of reality, laying plans against them, devising strategies, calculating advantages. Isolation is always isolation from. That is what the ego seeks: a way to be safely apart from, while still among the hostile others." Paradoxically, the isolated ego is emotionally connected with others via such antagonistic relations as "jealousy, fear, resentment, dominance, self-pity, vindictiveness [and] arrogance"; the more isolated an individual, the more s/he is unable to confront his/her solitude; the more unable to confront his/her solitude, the greater the effigy of his/her involvement with others.[34]

## 38. The Statue of Independence

> When things go wrong we always have to waste a lot of valuable time trying to decide whose fault it is, since we start with the silly assumption that everyone and everything is separate and autonomous.
>
> Philip Slater[35]

> Human beings <u>are</u> interdependent--they can only <u>pretend</u> not to be.
>
> Philip Slater[36]

Under the ideology of individualism the techno-economic citizen withdraws into a competitive isolation from which s/he waves the banner of independence. From a socio-ecological point of view human independence is an absurdity. However and according to Slater, "the belief that everyone should pursue her own destiny autonomously has forced us to maintain an emotional detachment from our social and physical environment and aroused a vague guilt about our competitiveness and indifference to others. For," so he argues, "our earliest training in childhood does not stress competitiveness, but cooperation, sharing, and thoughtfulness--it's only later that we learn to reverse these priorities."

One of the major goals of individualism in what I would call techno-economania is, in Slater's view, "to free us from the necessity of relating to, submitting to, depending upon, or controlling other people. Unfortunately, the more we have succeeded in doing this, the more we have felt disconnected, bored, lonely, unprotected, unnecesary, and unsafe."[37] From the vantage point of one's individualization

one may attempt to sculpture a statue (out) of one's independence but the effort will have to be in vain since the construction material is an intangible phantasm.

What ideological individualism translates into within the most fundamental aspects of our megacivic life, namely our family relations, our educational processes and our working habits, I will chart out in the three chapters to follow.

## 39. Home, Sweet Home

> Having created a technological juggernaut by which they're buffeted daily, men tend to use their wives as opiates to soften the impact of the forces they have set in motion against themselves.
>
> Philip Slater[38]

> The violation of personhood begins in the cradle, if not in the womb.
>
> Theodore Roszak[39]

> We are born into other people's intentions.
>
> Theodore Roszak[40]

Techno-economic civilization and patriarchy go hand in hand. Indeed, one could say that megacivic life as we know it, is the outcome of a patriarchal value system which condones merciless competition among males, hierarchically institutionalized and officially legalized forms of domination and exploitation towards women, children and the earth. Corporate skyscrapers and supersonic jets are the phallocratic symbols of a patriarchism which cannot see "beyond god the father,"[41] which cannot feel the wounds of a battered humanity

agonizing within the neon- and plastic-embalmed wasteland of egomania. Within our synthetic environment we breed alienated and lonely techno-economic individuals who seek a safe, stable and trustworthy haven amidst the furies of social domination and exploitation. For the majority of Western techno-economic citizens the nuclear family has become the release valve for the frustrations of megacivic competitiveness and shallowness, a sanitarium to heal bruised delusions and aspirations. While it can be a fortress against the harshness of the socioeconomic struggle for survival, the nuclear family more often than not is just another madhouse which, in contrast to bureaucracized and formal mental institutions, may be looked upon as a freewheeling clinic for emotional cripples.

"In our homes and marriages," writes Roszak, "[we] feel ourselves careering through a mad traffic of human relations, traveling too fast, changing direction too suddenly. We impinge upon one another, flying fragments of a disintegrating social order, surrounded by too many pressures and temptations."[42] Vulnerable as we are, lonely as we are, alienated as we are: "in our bones, we know something about the family that no earlier generation knew as vividly or could bring itself to acknowledge. We know that every ideal that supports the family has been used to tell a lie. Its love has been used as a lever of power; its trust and allegiance have been the masks of social domination."[43] The harsh critique the institution of the family has been exposed to and the disintegration of family life are now helping to de-mystify an age-old notion so that there can be, in Roszak's terms, "a family <u>beyond</u> the family so many are struggling to escape. Because if there

is not, then we will not achieve any sort of liberation by destroying the family; we will only finish unattached and drifting."[44]

The nuclear family may be regarded as the indispensable foundation stone of the modern state, but this does not mean that techno-economic civilization leans upon powerful and healthy family units. Indeed, the social disintegration of megacities is symptomatic of the decomposition of family and community bonds. Traditional extended as well as modern nuclear families are, according to Roszak, "pitched against the brutal historical fact that wherever the industrial city takes over, it comes, not to preserve families and strengthen community, but to erect cities, assemble a work force, build an economy. And for that, it needs power at the top and helpless human fragments at the bottom."[45] Helpless human fragments and crippled nuclear familes may lend themselves well to the making of a mega-culture, but with a price: in the long run, a machine-based techno-culture will weigh down too heavily upon its ultimately human (and not machine) foundation.

Meanwhile, "nothing that has come along in the past century --no major social movement or significant reform--has diminished the dependency and isolation of home life in industrial society."[46] On the contrary, smug in our "bastions of selfish consumption" and hard-headed prejudice, which we call "home," we tend to regard the sharing and caring of the traditional, pre-industrial "extended family" as carrying the stigma of the primitive. According to Roszak the adjective "extended" suggests that "what we find among these people

is an outmoded modification of some basic institution called, simply, 'the family.' We have 'families'; they have 'extended families.' But no. The truth is, they have families; we have diminished, if not absolutely minimal, families."[47]

A host of social services, marriage counselors, and "creative marriage" books aim at glueing together what had to come apart under techno-economic and socio-developmental pressures.

It is ironic that technoculture, which is the socio-developmental extension of the patriarchal value-system ingrained in traditional as well as modern families, corrodes its own foundation for which it is supposed to serve as a protective umbrella: the patriarchal family.

The patriarchal family aims at self-perpetuation. Yet, its compulsively authoritarian, egomaniacal achievement- and respectability-oriented and excessively rigid value system has greatly softened during the last century thanks to "the comforts of affluence, the rising pace of social transiency," the speed up of transportation and communication, "the liberation of women, increased legal protection for children, the greater sexual candor we have learned from modern psychiatry, the cushions and buffers of the welfare state."[48]

Nevertheless, the family still remains a breeding ground for subtle or open terror, violence and oppression. According to R. D. Laing, "the family's function is . . . to create, in short, one-dimensional [humans]: to promote respect, conformity, obedience . . . to promote a respect for 'respectability.'"[49] Fortunately,

however, we have, according to Roszak, developed "a historically unique sensitivity for the emotional manipulation that has always underlain the family's role as the primary socializing agency."[50] This sensitivity allows us to rebel against "family life as mass-produced madness" and to expose its facade of loving intimacy. Concludes Roszak: "we may not have families that know how to nurture the personality; but at least the families we have no longer find it easy to beat us into submission."[51]

Nuclear families are already being replaced by open marriages and ephemeral and casual surface relationships which thrive on individualistic freedom and on a minimal mutual responsibility and commitment. According to Roszak, these "do little more than flow with the tide of our hedonistic, high-living economy. A disposable love life is ideally suited to the competitive ambitions and rootless mobility of advanced industrial culture. It keeps us footloose and lets us travel light. These are values that belong to the world of the careerist individual, not to that of the person."[52]

In a world which has become too big, too incomprehensible, too impersonal and too oppressive, the most basic human social structure, the family, lingers on as a biological necessity which has become too small, too denatured, too restrictive, too desolate and too desperate. The family cannot be anymore the backbone of a society, of a state. The society, the state becomes the terra firma for an effigy of family and this is no good, for "the bigger the industrial apparatus, the weaker the family. The one subtracts its

human resources from the other. Any reform we propose for the diminished family that disintegrates it still further will only expand the public welfare bureaucracies and make official expertise that much more indispensable to millions of isolated and floundering human fragments."[53]

Meanwhile the patriarchal family keeps on raising mysogynous males as well as conservative and submissive females. It keeps on breeding suave and vulgar violence against women, and constitutes an early training ground for the art of successful role playing in a society which values pretense over authenticity. In the patriarchial family husbands provide for the family; they lead it, protect it and live off it. Wives support their husbands, their children, but not themselves. This last would make them independent; a patriarchal no-no. A woman is married to a man; but a man is not married to a woman. He is married to his job. In suburban living "husbands go to the city," asserts Slater, "and participate in the twentieth century, while their wives are assigned the hopeless task of trying to act out a pathetic bucolic fantasy." Having to accept, welcome and foster change, threatening and disruptive as it might seem at times, husbands collude "daily in their own obsolescence, and they're frightened. Such men tend to make of their wives an island of stability in a sea of change."[54]

Husbands pursue the symbol of perfect love which tends to be a domineering, adventurous affair with a non-aggressive, innocuous, submissive and non-demanding caricature of femalehood "designed for

men who don't really like sex but need it desperately for tension-release--men whose libido is mainly wrapped up in achievement or dreams of glory."[55]

While men tend to search rather exclusively for happiness and symbolic gratification within the context of busy worldly affairs, women tend to aim at psycho-spiritual gratification within the commitment and responsibility of a loving relationship. Men rarely satisfy women's psycho-spiritual values, needs, and aspirations. To them the symbolic realm of need gratification offers a by far wider variety of options for their ambitious trial-and-error undertakings. The psycho-spiritual universe of women, however, is particularly limited since it is suffused with the traditional presupposition that "happiness and complete fulfillment can be found in a single relationship, that one person can satisfy all needs."[56]

For want of psycho-spiritual gratification many women switch to symbolic aspirations, a move which is misinterpreted as liberation, for symbolic aspirations and gratifications are but "ersatz" aspirations and gratifications for alienated minds, be they male or female.

As a result, the consequences of the techno-economic individualization process are most acutely experienced at home, in the family. For here, delusion holds hands with delusion; emptiness faces emptiness, boredom sleeps with boredom, and loneliness embraces loneliness. The megacivic home is no sweet home anymore; it has become the symbolic battlefield of warped emotions, the temple of spiritual bankruptcy.

## 40. Mis-Education

Real wisdom is being stored away in the subcellars
by the misers of learning.
Henry Miller[57]

The truth knocks on the door and you say "Go away,
I'm looking for the truth," and it goes away.
Robert M. Pirsig[58]

We were trained not to see.
Robert M. Pirsig[59]

Notwithstanding the many enclaves which still foster a humanistic education, the mainstream and the by far most funded departments of universities and colleges serve directly the needs of techno-economic civilization. Academia's teaching, research and development is bridled, scheduled and channelled as the fund granting goverment agencies, foundations, and corporations see fit. Our campuses have become training camps and information processing data banks which drill phalanxes of spiritually defunct, colorless and certified single-visionary experts into an arch-reactionary commitment to devote their learned ignorance to a technocratic dollar, law and order superstructure which financially manipulates its megacitizens to be creative and instructs them in the art of wrecking their life by making a living. To get an education in the mega-university means to absorb the sophistries of business lore, to champion the mathematical stratagems of engineering, to sacrifice the last flickers of passion to the myth of value-neutral, objective and scientific consciousness.

It is not coincidental that only in higher education, the industrial state's direct recruiting field for its acquiescent servants, male teachers outnumber by far female instructors. In primary education women educators strongly prevail for here technocracy's interests are not yet directly at stake. Throngs of women are trusted with the formal education of the young and innocent which proceeds in step with curricula designed, coordinated and imposed mostly by men to assure the patriarchal value system. As a result, the patriarchal production, efficiency, quantity and competition oriented educational system cranks out highly individualized and specialized techno-economic nobodies who self-righteously perform their inculcated megacivic duties.

According to Roszak, traditional education breeds "profoundly bewildered and anxious people who believe education is a matter of doing requirements, totaling up grades, pleasing teachers."[60] Like the family it breeds loneliness, alienation, meaninglessness, fear and despair. Its all pervasive defect: it is not student-centered, but serves the best interests of a patriarchal techno-economics.

"Our relationship with children," maintains Roszak, "are political through and through: relations governed by power, by an invidious protocol of dominance and submission. Every encounter with a child is too tempting an opportunity to vindicate and edify ourselves, to assert the importance and the 'rightness' which we have so little occasion to experience in the world." We get the "chance to play God" while our parental ego serves as an ideal conduit

of the industrial state's values and purposes to instill allegiance and deference to the techno-economic status quo. "What," asks Roszak, "do these powerless children learn first of all from their supposedly well-meaning parental authorities? That they are natural-born nothing: wax to be stamped, clay to be molded, the raw material of other, more competent people's designs."[61]

An education which aims at efficiently filling the techno-economic niches of the megacity subjugates, by necessity, the psycho-spiritual aspirations of the young in the name of practicality, of utility. It enforces basic writing and reading skills and some minimal exposure to general, well-established and non-controversial factual knowledge. Mediocrity becomes rampant and technocratic educational "experts" worry why Jill or Johnny can't read or write, can't handle the "basic skills of life." But, asks Roszak, "are we so sure we know what the basic skills of life are?" Understanding one's organism and being in touch with one's emotions are every bit as basic as reading or writing. So are one's ability to dream, to imagine, to relax, to self-actualize, to express trust and tenderness, and to cope with anxiety, aggression and envy. "If the basic skills have nothing to do with all this, then let us admit that they have nothing to do with [a child's] health, happiness, sanity, or survival, but only with his[/her] employability. Whose interest, then, is [a child's] education serving?"[62] Obviously, it is serving the interest of a science- and "rationality"-based techno-economic civilization which demands of its subjects only that they do not question "the essential rightness

and rationality of urban industrial society," that they assimilate obsequiously "the lethal orthodoxies of the modern world" and that "they do not get much beyond the verbal-cerebral level of the personality."[63]

An education which justifies itself on the premises "that resignation to tedium and obedient self-effacement are good for the soul, that personal interpretation and free self-expression are the enemies of excellence,"[64] can only be, from an ecological point of view and in Buckminster Fuller's terms, an "universally specializing, antisynergetic, anticosmological educational process."[65] It cannot prepare humanity for psycho-spiritual integration into ecospheric givens. It does not distinguish between what adults want to teach children and adolescents, and what children and adolescents (and adults for that matter) want to learn.[66] Instead, traditional education administers the patriarchal and techno-economic value-system killing off the psycho-spiritual, the instinctive; it does not let a genuine experience of the world unfold itself unhampered; it wants its victims to assume a role in or to get a sense of its world. Yet, experiencing oneself is not "assuming a role" in, is not "getting a sense" of techno-economic civilization; a distinction educational "experts" do not usually realize. Experiencing oneself can therefore not be "educationally administered." Indeed, "no influence is deadlier than that of the benign bureaucrat urging live young creatures to develop their roles and operate reciprocally in a group. It is the worst kind of invasion of the very energies which if simply left

alone would accomplish the real thing, not the image of it, all by themselves."[67] This sort of educational administration will help to methodologically fossilize any attempts at genuine self-actualization in the young.

The following invective and rhetorical questions go right to the heart of a bitter reality: "How can one know the splendor and fullness of youth," asks Henry Miller, "if one's energies are consumed in combating the errors and falsities of parents and ancestors? . . . What of the dreams of youth? . . . Stifle or deform youth's dreams and you destroy the creator. Where there has been no real youth there can be no real [hu]manhood. If society has come to resemble a collection of deformities, is it not the work of our educators and preceptors?"[68]

Fortunately, traditional education is not all there is. There are libertarian approaches to educating the young, many of which are still in experimental stages, some of which fail, some of which succeed. Since these, however, are not characteristic of mainstream educational processes, I shall present a delineation of libertarian educational thought only later under "what there ought to be."

## 41. When the Going Gets Tough and the Tough Get Going

> Every morning all 200 million of us get out of bed and put a lot of energy into creating and recreating the social calamities that oppress, infuriate, and exhaust us.
>
> Philip Slater[69]

> Economists assume that jobs must be created even for things that don't need to be done so people can have money to spend on things they don't need.
>
> Philip Slater[70]

What is work? Let me mention briefly a few major unspoken, undebated and widely accepted assumptions of the traditional work ethic, a mental attitude fashioned by the Western industrialization process. According to Roszak "work is what makes you officially grown-up"; it is something one is paid for, something very serious one ought to be good at. Work is a responsibility and not for fun. One must work even if one may not like it because it is contemptible to be a lazy freeloader.[71] For some people this work ethic may be "the bedrock of their security and their self-respect,"[72] for others it may be a degrading necessity. In any case, for the majority of megacitizens working has become an inevitable way of life. Working for money to buy what one needs or what one thinks one needs to survive has become for many an uncreative and life-denying ordeal. Within techno-economic civilization humans have assumed the role of toiling job-fillers; they have become employment or unemployment data within a vast technocratic computer.

Writes Roszak: "Whenever I hear politicians and labor leaders talk about 'putting people to work,' I wonder if they

realize, as I suspect a great many working people do, what a pathetically minimal ideal that has become. What does 'full employment' mean to [humans] . . . whose daily work is an insult and a torment?"[73] Considering the meaningless and drudging jobs offered by the new industrial state, the right to work may be regarded as tantamount to the right to self-denial and self-debasement. If this is not reason enough to quit priding ourselves on our techno-economic achievements which all-too-often have fettered rather than liberated us, then what is?

According to Slater, we have "passively surrendered to every degradation our technological ingenuity has brought about. . . . We try to outdo each other in singing the praises of the oppressor, although the value of technology in increasing human satisfaction remains at best undemonstrated." Moreover, technological progress tends to generate more and more technological yet little or no truly human progress. Quite often we have to "play down the 'side effects' that so often become the main effects and completely negate the alleged benefits. The advantages of <u>all</u> technological 'progress' will, after all, be totally nullified the moment nuclear war breaks out (an event which, given the number of fanatical fingers close to the trigger, is only a matter of time)."[74]

Here we are, then, at the brink of total annihilation and yet "happy" when we have or get a job which quite often is slavery, well-paid and Saturday off. Indeed, slavery is not a thing of the past. It is still with us, today. It may have become urbanized,

civilized, air-conditioned, perfumed and well-remunerated; but it persists beneath the blue and white collars of megacitizenry. Every exploited human is a slave; every alienated worker wastes his/her life away doing a meaningless job. Argues Roszak: "a worker whose discontent is softened by a pay raise and shorter hours is still an exploited worker. Similarly, if working conditions are redesigned to make life on the job more relaxed and diverting (for example, the office is air-conditioned and carpeted, music is piped in, the day is strategically punctuated with coffee breaks in the handsome company lounge), we may still see this as alienated employment, even if those who work in this mellowed environment are unexceptionally cheerful." According to Roszak, we are justified in taking this stand "because their work still does not belong to them; it is still not an act of their own choosing done to their own standard. Instead, they remain dependent on the favor of employers and bosses; they are still powerless to determine the use to which their work is put; they own neither the means nor the fruits of their labor. They are still working as productive instruments at the disposal of forces they do not control and may not even understand."[75]

"Job enrichment," "job restructuring," "flextime scheduling," "profit sharing," "job sharing"; these and many other forms of "participation" help "blunting the edge of discontent." A "suave paternalism" assures that "work-as-productivity" (rather than "work-as-personal-fulfillment") looses its crushing impact on human dignity, at a price though: "both in privatized and in collectivized economies,

we discover that our work life has been infiltrated by clever strategies invented by planners and managers to seduce our allegiance and manipulate our energy for the greater glory of the system."[76] This appeasement stratagem was necessary, for, without it, alienated discontent would be impossible to bear and its explosion would ravage the smoothly functioning machinery of suave exploitation.

According to Roszak, "the fundamental act of alienation during the Industrial Revolution was the subordination of work to money, so that work--any work and all work--came to be an abstract commodity valued only as a means of earning the wages that purchase subsistence and (perhaps) some leisured enjoyment."[77] In Marxian terms, work became "external to the worker"; it became a self-denying ordeal which suppressed all attempts at self-actualization.[78]

The fundamental act of alienation, whether it happens in an impoverished or affluent social situation,[79] or whether it is experienced as powerlessness, meaninglessness, self-estrangement, normlessness or isolation,[80] cannot be undone by worker "participation," which is always "constrained by certain abstract imperatives: efficiency, the rate of growth, the balance of world power, etc."[81] The suavely pacifying enrichment and inducement strategies "do not place the whole and unique person at the center of economic life." They do not eliminate the total impersonality of techno-economic work which bears no one's name or style, work which is "performed because others dictate, or because the system had decreed that it be done by somebody, by anybody."[82]

Genuine personal responsibility for one's own work has been displaced by a collectivized, abstract and vaguely defined "participation" in some job. Dichotomize the I and the job, make work become a mere money-making activity without any sense of loyalty, care and responsibility, and you will get the "I only work here"-mentality, which is symptomatic of "the withdrawal of self from action, the retreat of the person from the performance. Work then becomes a foreign object in one's life which is, at most, a means to an end, but no proper part of one's real identity." Alienation, then, is more than a mere estrangement "from the means and fruits of production. It is also estrangement from the activity itself which allows us to deny our responsibility for what we do. And this is what surely follows when work has no craft to it: no challenge, no taste, no personal style. Work of that kind is a zero, a hole in the middle of one's life." Life thus wasted breeds rebellion and resentment. "Confronted with work of this kind, we withdraw into fantasies of being elsewhere, doing other things . . . watching the clock, planning for the weekend. We are everywhere but right here, at work and in our work."[83]

The techno-economic work ethic demotes persons to personnel, creative humans to phony executives, vocation to production. Mega-civic work has turned into a farce. Elaborates Roszak: "Work that produces unnecessary consumer junk or weapons of war is wrong and wasteful. Work that is built upon false needs or unbecoming appetites is wrong and wasteful. Work that deceives or manipulates,

that exploits or degrades is wrong and wasteful. Work that wounds the environment or makes the world ugly is wrong and wasteful. There is no way to redeem such work by enriching it or restructuring it, by socializing it or nationalizing it, by making it 'small' or decentralized or democratic. It is a sow's ear that will yield no silk purses."[84]

Huckstering jobs (advertising, selling, etc.), busywork jobs (office filing, recording, etc.), administrative jobs (supervising, coordinating, etc.), financial sleight-of-hand jobs (money juggling, financial speculation, etc.), compensatory amusement jobs (spectator sports, package tours, etc.), cop jobs (guarding, personnel evaluating, etc.), and welfare processing jobs (handling the economy's casualties, etc.): all these, are, according to Roszak, wrong, wasteful and unworthy of our best energies.[85] And yet they proliferate despite the fact that "work that is not good and useful is work that wastes the lives of people and the resources of the Earth--and industrial society generates a scandalous amount of that kind of work. Perhaps it is what our society does most. In our search for a true vocation, here is indeed a Himalayan obstacle. For it may mean there is a prodigious amount of work we are involved in which no healthy sense of responsibility should permit us to do at all."[86]

That most of the work we do is, indeed, unbecoming to human grace and dignity is well betrayed in the "careerist" mentality, with its patriarchal and life-denying attitude towards "real," i.e., non-domestic, and remunerative work. For Slater, "career" is "in

itself a male concept--designed by and for males in our society. When we say 'career,' it suggests a demanding, rigorous, preordained life pattern to whose goals everything else is ruthlessly subordinated --everything pleasurable, human, emotional, bodily, frivolous. It's a stern, Calvinistic word," a word the intimidating aura of which women have to contend with, should they aspire to a career. "So when a man asks a woman if she wants a career . . . he's saying, are you willing to suppress half of your being as I am, neglect your family as I do, exploit personal relationships as I do, and renounce all personal spontaneity as I do?" Thus, defined, a career is a despicable and "pernicious activity for <u>any</u> human being to engage in and should be shunned by both men <u>and</u> women."[87]

The careerist mentality is not a positive feature of the strong and the tough; it is a symptom which bespeaks the emotionally crude and numb; it is the spiritual tumor of a self-righteous society in which the right to be lazy is anathematized.

I shall now turn to what there ought to be with regard to our psycho-behavioral indicator.

b. What There Could Be

> To be nobody-but-yourself in a world which is doing its best, night and day, to make you everybody else--means to fight the hardest battle which any human being can fight, and never stop fighting.
> e. e. cummings[88]

## 42. Smallness and Individuation

> They had made the mistake of thinking of a personality as some sort of possession, like a suit of clothes, which a person wears.
> Robert M. Pirsig[89]

> It is only a society possessing the elasticity of decentralized communities that can absorb the inevitable fallibilities of [humans].
> Theodore Roszak[90]

In Chapter 35 I had differentiated between an individualized individual, i.e., an individualist, and an individuated individual, i.e., a (whole) person. I had asserted that, in contrast with an individualist, a person is not the product of politico-ideological "individualism." Now is the time to sketch what a person is.

While an individualist is the product of an individualization process, a person creates him/herself via an individuation process. The creative self-realization process of a person is antithetical to the individualization process which leads into the dead end of alienation and loneliness. Individuation is open-ended. It aims at community, cooperation, getting together; it desires involvement and dependence. And these are precisely the features which the individualist suppresses or ignores. An individuated individual is

communal rather than civic; s/he is authentically social, i.e., s/he is cooperative, sharing, other-centered, open and unpretentious, rather than self-centered, competitive and pseudo-accessible. A person is organically/culturally integrated in his/her group which in turn is embodied in a person's behavior, language and values. While an individualist may be viewed as a regressed person, a person may be regarded as a mature individual.

Techno-economic society could be transformed so as to de-individualize its members, so as to personalize itself into authentic ecocommunities. The individualist is a capitalist as well as a socialist phenomenon, for both bourgeois liberalism and social democracies are "robotitudinal."[91] Persons, however, spontaneously unfold their potentialities and become <u>with</u> their community, not for or against it. They do not conform themselves to outside pressures; they differentiate themselves within the sociosystem; they shape it more than they are shaped by it.

In contrast to the one-dimensional, limited and egotistical individualist, the self-expanding person is ecologically and anarchistically oriented. According to Bookchin, "both the ecologist and the anarchist place a strong emphasis on spontaneity." The former, insofar that s/he is a critical/reconstructive ecologist, rather than a scientific one, rejects the notion of power and control over nature, and believes in a humanity that spontaneously self-unfolds in harmony with eco-evolutionary processes. "The anarchist, in turn, speaks in terms of social spontaneity, of releasing the potentialities of society

and humanity, of giving free and unfettered reign to the creativity of people. Both, in their own ways, regard authority as inhibitory, as a weight limiting the creative potential of a natural and social situation."[92] While the ecologist sees progressive niche differentiation in ecosystemic evolution, the anarchist idealizes progressive individuation in sociosystemic development. "Just as the ecologist seeks to elaborate the range of an ecosystem and promote a freer interplay between species, so the anarchist seeks to elaborate the range of social experiences and remove all fetters to its development."[93]

Since smallness tends to promote spontaneity and variety rather than anonymity and monotony and since it is more likely to inhibit the formation of hierarchical systems of domination and exploitation, social, political and economic decentralization is not only desirable as a means of restoring the human scale, [but also] necessary to recreate a viable ecology, to preserve life on this planet from destructive pollutants and soil erosion, to preserve a breathable atmosphere and the balance of nature. The promotion of spontaneity is necessary if the social revolution is to place each individual in control of his[/her] everyday life."[94]

In order to undo techno-economic civilization humanity must bring forth more personal relationships to displace economic and political relations among humans. Highly centralized, capital- and energy-intensive technology would therefore have to be abandoned because it individualizes humans. Small-scale and eco-intensive technology could help individuate them. It could, according to

Bookchin, "play a vital role in forming the personality of [humans]. Every art, as Lewis Mumford has argued, has its technical side, requiring the self-mobilization of spontaneity into expressed order and providing contact with the objective world during the most ecstatic moments of experience."[95] Ecocommunities would value a "technology for life" which translates the esthetic and creative needs of their members. "An economy of cherished things, sanctified by a sense of tradition and by a sense of wonder for the personality and artistry of dead generations, would replace the mindless seasonal restyling of commodities; innovations would be made with a sensitivity for the natural inclinations of [humans] as distinguished from the engineered pollution of taste by the mass media." In general, human life would be simpler, more artistic, more leisurely and less cluttered with needless things. "The repulsive ritual of bargaining and hoarding would be replaced by the sensitive acts of making and giving. Things would cease to be the crutches for an impoverished ego and the mediators between aborted personalities; they would become the products of rounded, creative individuals and the gifts of integrated, developing selves."[96]

Techno-economic civilization could be, in Roszak's terms, "creatively disintegrated"[97] and cede to decentralized, non-hierarchial, non-authoritarian ecocommunities which, instead of toiling for quantity and efficiency of production, could foster the anarchist ideal of the self-actualizing rounded human, a person "whose sensibilities, range of experience and life-style are nourished by

a wide range of stimuli, by a diversity of activities, and by a social scale that always remains within the comprehension of a single human being."[98] Decency, dignity, tender loving care, sympathy, empathy and altruism: these could become the rule rather than the exception in (inter)personal behavior.

In short: ethological authenticity, communitarian convivial-ity and ecological wisdom ought to become the creative forces for an open-ended and spiritually rewarding future.

## 43. Cooperation, Solitude and Self-Unfolding

> Until we can say what we most deeply want our lives to be and why, we are like flotsam in the tides of change--purposeless and drifting.
>
> Phil Shepard[99]

> The important parts of life will always be the things we do in our own small groups and on our own.
>
> Paul Goodman[100]

Persons could be cooperative rather than competitive. Cooperation could lead us away from our infatuation with symbolic gratification; it could nurture an atmosphere conducive to psycho-spiritual gratification. Cooperation and reaching out could dissolve fear and despair, reduce, if not eliminate, alienation and loneliness; they could provide us with the time and instill us with the courage to discover ourselves, to let ourselves be and become. Cooperation would end the rat race for money, status, fame, independence and pre-fabricated identities. The individual's isolated struggle with

meaninglessness and hopelessness could fade into an impassioned and self-revelatory journey. According to Roszak, "the search for the person is a quiet and solitary exploration undertaken in candor and curiosity. Its aim is neither success nor celebrity, but self-knowledge--a knowledge of the self for whatever the self happens to be, as much to confront its weakness and shame as to discover its hidden powers." The quest for the self knows no competitive or comparative standards. It takes, in Roszak's terms, "a road wide enough for only one traveler. Perhaps I can be helped along the way by a trusted guide, but no one can follow the road except me. Because the road is myself--my experience of a lifetime waiting to be searched for its shape and meaning. For the progress I make along the way, there is no reward beyond a deepening wisdom whose gratifications are wholly private. Nothing to boast of or display. Nothing to feed the ego."

In contrast to the individualist's isolation, the person's solitude is an indispensable resource for that"stillness in which we strip away our received identities and seek to become as naked and nameless as the day we were born. It offers us the opportunity to salvage our original nature--the self we were before the world laid claim to us and began to make us over." It is in solitude that we may experience not only our rebirth but also our death. "In solitude we learn how to be alone with our death; we learn how to use that unfathomable prospect as a means of telling the urgent from the trivial, the noble from the base. We learn how death may be used to cleanse us of distraction, waste, and unworthy ambition."[101]

In solitude and cooperation we could come to savour what Goulet termed "the fullness of human good [which] is more than mere abundance of goods";[102] we could come to experience that, "as Marx aptly remarked, the truly wealthy [hu]man is the [hu]man who is much, not the one who has much."[103]

However, Roszak admonishes us, "before we find out who we are (if we ever do) we must find out who we are not. Self-discovery begins with suffering the loss of false identity."[104]

For this, we must give up our traditional attitudes towards the family, education, work, city and technology. We must evaluate them not in their own terms, but in terms of our personal values, needs and aspirations. We could, for example, develop what Slater calls a "human-value index," which would assess "the worth of an invention or a system or a product in terms of its total impact on human life; in terms of ends rather than means. We would then judge the achievements of medicine not by the hours of prolonged (and often comatose) life, or the volume of drugs sold, but by the overall increase (or decrease) in human beings feeling healthy." Furthermore, "we could judge city planning and housing programs not by the number of bodies incarcerated in a given location, or the number of millions given to contractors, but by the extent to which people take joy in their surroundings." Moreover, we ought to refrain from appraising "a nation today in terms of its gross national product--a phrase whose connotations speak for themselves."[105]

Instead of despising the here and now and living for the future we could live in the here and now making and re-making it

permanently into a future of possibilities. We could find stability in change, change in stability. "All societies must allow for both, since adaptation to the environment requires both new responses and the consolidation of old ones, while our personal happiness demands both familiarity and novelty in everyday life. Every society develops some way of realizing these contradictory needs."[106]

The right to work and the right to laziness should have equal status. Both should foster self-respect and encourage self-discovery. Women and men could join together to unravel intellectual techno-masculinity, to replace it by psycho-spiritual organofemininity. Solitary reflection, empathic cooperation and the shared need for psycho-spiritual gratification would unite the sexes to end patriarchal domination and exploitation patterns. In your fully unfolding personhood, you would have, according to Roszak, "a right to be handled with care, a right to the employment, education, time and space you need to find your peculiar style, a right to participate directly in the decisions that shape your life even if exercising that right means endless delay and disruption."[107]

Your quest for personal rights, your craving for personal fulfillment and your aspirations for personal responsibility would not be symptoms of an infantile, immature and spoiled narcissism or an inwardness which withdraws from collectivist accountability; no, it could become a significant sociopolitical momentum for a cultural change towards mutual respect and conviviality. What Herbert Marcuse called "the great refusal" which, in Roszak's words, is "the refusal of people to will their own alienation and to serve the tyranny of

the economic performance principle," is fueled by what Marcuse, according to Roszak, wisely recognizes as "a mature narcissism that lies beyond 'egotistic withdrawal from reality' and which 'may contain the germ of a different reality principle.' The myth of Narcissus, he observes, can be read as a 'revolt against culture based on toil, domination, and renunciation.'"[108]

How this mature narcissism could be an integral part of our family life, educational practices and working day, this I shall sketch in the chapters to follow.

## 44. The Personal Home

> Since time out of mind, the job of the family has been to socialize persons. Now let us use it to personalize society.
>
> Theodore Roszak[109]

Rather than functioning as a breeding ground for individualist privacy, patriarchal domination and isolated alienation, the family home, i.e., the extended family home, could become a propitious soil for organically grown conviviality. The contemporary techno-economic and nuclear family has to be revitalized, re-extended, re-organicized, for, according to Roszak, "the family is a community in its own right; it is our basic, biologically given community. In its better, more extended days, it has always included a variety of life--the two sexes, the major stages of youth and age, the fact of birth and death, even a range of eccentricities--that few communitarian experiments manage to embrace." While perhaps old and worn-out, the family may

still be recycled rather than discarded, for "somewhere in every family, buried beneath all its assigned identities and traditional authoritarianism, there is one precious need of the person which no Utopian substitute can provide, because it is welded into the biological continuity of human life. Spontaneous and unconditional loyalty."[110]

The family: "the Birthright of Loyalty"![111] The home: the birthplace of loyalty!

Loyalty, here, is not to be understood as a socially imposed obligation or a patriarchally required devotion to the family; rather, it is meant as an internalized biological need for group and individual survival, an evolutionary sine-qua-non of humanity. According to Roszak, "it is a loyalty that does not come to us as a reward or as the benefit of a contractual formality, nor because we have proved ourselves worthy by some rigorous initiation or sworn to a common belief. It is not even there because we are liked, or approved of, or agreed with. It is a commitment that undercuts all this; it attaches to our being. It is ours simply because we are blood relatives of those who have it to give."[112]

While there may be rudimentary blood loyalty in animals other than humans, such "instinctive nurture blossoms forth at the human level to become educative companionship. . . . With us, there is far more involved in parental loyalty than protection and nourishment; there is a positive cultivation of faculties--the long process of sharing experience between the generations." The reciprocity

between parents and children, between giving and taking "is so biologically primitive that it can do without a sworn word or legal formality; yet it holds within it the seed of our highest spiritual growth."[113]

A word of caution with regard to loyalty, that "strange moral force of nature":[114] in the typical patriarchal and nuclear family, unconditional loyalty has come to mean too often unconditional loyalty of the woman to the patriarchal value system which assigns stereotypes to the family members, and which generates oppression, and individualization. This sort of unconditional loyalty is lethal to the development of personhood. Unconditional loyalty, however, ought to be conducive to the self-discovery of all family members; it ought to pay respect to "the universal teaching of human society that the bonds of the family are sacramental."[115] A betrayal of this unconditional loyalty, then, is a sacrilege, a sacrilege towards the essential sacredness of all human potential for authentic self-discovery and self-unfolding.

The sacramental family would nurture individuated persons based on a sacramental liberatory loyalty. While "thus far in our history, [loyalty] has always attached itself to prescribed social roles and has served to reinforce those roles," it ought now to be attached to the person rather than to the role.[116]

This, then, ought to be our reconstructive credo for the family: cultural change could start best from within a family the function of which is not to stabilize and reinforce but to "creatively

disintegrate" the established patriarchal and techno-economic value system and its exploitative and hierarchical forms of domination. The sacramental family would nurture individuated persons who would revere life and matter in all its forms and who would attempt to creatively integrate the human sociosystem into the ecosphere with the ultimate aim of weaving an organic web of personhood, which makes one's family, one's culture and the earth one's personal home.

## 45. A Personalist Environmental Education

> The only possible revolution, the only worthwhile revolution, must be created not by politicians or militarists but by educators.
>
> Henry Miller[117]

"Schooling," whatever its form would take outside the family, would be the sociosystemic extension of the creative disintegration process (of techno-economic civilization) started in the family. Education, in contrast to technical training, ought to aim at creatively fitting personal aspirations with the ecosystemic givens of the earth. Such an education, which I would call environmental education, would be predicated upon the premise that, in Roszak's terms, "the needs of the planet and the needs of the person have become one, and together they have begun to act upon the central institutions of our society with a force that is profoundly subversive, but which carries within it the promise of cultural renewal."[118]

An environmental education, then, would also be a personalist education, i.e., an education that assures that the person

self-unfolds as spontaneously as the eco-evolutionary process and in harmony with it. If persons are integral parts of nature, then they ought to be discovered for what they are. In contrast to traditional education which manipulates the young into an individualizing techno-economic system and thus into loneliness and alienation, an environmental education would "let them go and grow"[119] and individuate themselves into thoughtful ecocitizens. An ecocommunitarian education would respect "what all of us bring into life and to school: a wholly unexplored, radically unpredictable identity. To educate is to unfold that identity--to unfold it with the utmost delicacy, recognizing that it is the most precious resource of our species, the true wealth of the human nation."[120]

Personal identities are of a psycho-spiritual nature; through them we could get in touch with the roots of "our" nature, of "our" universe (as we create them, as they create us). We cannot teach, impose, or suggest personal identities; at the worst, we can suppress them in the name of "objective" standards external to them. Personal identities, i.e., the psycho-spiritual, would have to teach us. The teacher would become the taught and the taught would become the teacher.

An environmental or personalist education thus conceived would "e-duce" us, i.e., lead us out of the status-quo of an anti-ecological encapsulation, and "in-duce" us, i.e., lead us into the realm of natural becoming. At any rate, "the direction in which the education of the person must initially flow [is] from the pupil to

the teacher. In every educational exchange, it is first of all the teacher who has something to learn."[121]

The environmental personalist teacher would serve as "Socratic midwife" to the student of self-discovery and thus to the student of nature. A midwife is, according to Roszak, "one who brings forth what is already there, waiting to be born: the hidden splendors of self-knowledge. That is where a personalist education begins, in the Socratic conviction that our first and highest object of study resides within. All there. Given. Teachers may offer information, know-how, technique, example. But until the student's innate calling declares itself, we have nothing but mimicry, memory work, superficial performance."[122]

An environmental/personalist education would have to be offered by persons who have decapsulated themselves from the narrow-mindedness of techno-economic civilization. "Nothing could demand more of us than the personalist ideal of education," writes Roszak, "[it is] the most difficult thing in the world to ask of anyone. The renunciation of power, the one power that is most unquestionably within our 'right' to exercise: our power over the young, to use them or abuse them in pursuit of a hundred secret, selfish goals. Everybody has an <u>interest</u> in the education of the young . . . but what is the <u>child's</u> interest--independent of all adult intervention and influence?"[123]

The child's interests are many, but, most of all they are <u>not</u> practical. Perhaps their overriding interest is the one "each

of us discovers, if only in moments of unaccustomed exhilaration or strange absorption, when we become our own person, caught up in our own work, our own salvation. In such moments, we find an autonomy and an adventure that alone deserves to be called life. That is the child's interest, and it needs to be defended from nothing so much as the terrible 'practicalities' that are always foremost in the adult mind."[124]

Clearly, it is the psycho-spiritual we would have to focus on. We could turn our attention away from "pragmatic intellect" and masculine logic to the affective, to intuition, to the emotions, to the feminine, to the organic.

Environmental education would be free from traditional educational values; it would be free for personalist experimentation at all ages by all sexes, and races. Education would be life-centered, an adventure of self-discovery, a quest for meaning, an ecological project.

Personalist/environmental education could draw its momentum from the libertarian and affective education, the already extant "two streams of educational change."

The libertarian educational stream which encompasses the free-schoolers and the deschoolers is sociopolitical in its orientation. For it, "education is," according to Roszak, "not assigned knowledge, but the free growth of children; it is the earliest and most decisive expression in life of what Stirner called self-ownership. Tolstoi,

one of the greatest of the libertarian teachers . . . formulated the central question with absolute precision. 'Who has the right to educate?' he asked. And his answer, 'Nobody.' Not the state, the church, the family." The right of education cannot be vested in anybody, for "those who assume the right to educate, so Tolstoi argued, will educate in their own interest--at the expense of the child's autonomy. Hence, the coercion, the bribery, the authoritarianism of the systems created to enforce that presumed right.

"Nobody has the right to educate, the libertarians insist, but children have the right to <u>be</u> educated" in an atmosphere free of official compulsion, bureaucratic organizing and burdensome professional supervision. Libertarian education is informal and takes its model from the natural learning of speech. Writes Roszak: "Just as the young need not be <u>made</u> to speak, so they need not be forced to learn anything that is freely chosen and authentically necessary to their development. At its doctrinaire extreme (in the work of Ivan Illich) this conviction becomes open war declared upon all forms of professionalism in teaching. The schools are to be dismantled and replaced by passive facilities for self-education, such as libraries or workshops. Teaching continues but not teachers."[125]

Whatever one's position on the libertarian scale, all forms of oppressive manipulation and social privilege have to be undone. Libertarian educators base themselves on "the familiar ideals of Western revolutionary politics: the rights of [humans], the appeal for

liberty, equality, fraternity--here, all applied to the lives of children."[126]

In contrast to libertarian education, affective education (also called human potentialities education or personal growth education) is psycho-spiritual in its orientation. According to Roszak, it focuses on the psychotherapeutic, the artistic, the religious and seeks "to educate below and beyond the verbal-cerebral level of the personality." "All the affective educators begin from the libertarian premise that instruction must be noncompulsory and free from competitive pressure," then move on "to exploring the potentialities of the person developing a curriculum of studies and a repertory of teaching techniques" which are designed to be "justly proportioned to the whole human being--body, mind, and spirit."[127]

A personalist/environmental education would combine libertarian thought and affective thought, for both presuppose each other and by themselves would be incomplete and insufficient for the project of self-discovery. A personalist/environmental education would attempt to expose, in Roszak's terms, "our most fundamental assumptions about ourselves, nature, reality--[which] might have to be plucked out of our tissues and organs, our sexual impulses and half-forgotten dream life. If education does not go that deep into the personality, it is apt to leave the roots of our alienation untouched."[128]

This, then, ought to be our new education: sensitive to the psycho-spiritual needs of the person and hence to the needs of the earth; sociopolitically conscious of our need to disintegrate

creatively techno-economic civilization and to reintegrate humanity in the form of ecocommunities into the grand design of nature.

## 46. Vocational Freedom

> When you want to hurry something, that means you no longer care about it and want to get on to other things.
>
> Robert M. Pirsig[129]

> One thing must be said for idleness: it keeps people from doing the Devil's work.
>
> Philip Slater[130]

The sacramental family home as primary educational setting; "schooling" outside the family, whatever liberatory and personalist forms it may take, as secondary education; and working, as tertiary and complementary education to the former: such could be the eco-citizen's trilogical aspiration for an ecologically sound and ethologically wise self-discovery and self-unfolding towards an organic wholeness within eco-evolutionary processes. Work ought not to be alienating, self-negating toil for an abstract and impersonal techno-economic system, for stultifying socio-developmental strategies and for a lonely and desperate human existence amidst the ecological shambles brought about by a voraciously expanding, boring and colorless synthetic environment. No; work could be a liberatory odyssey into the dark recesses of the self; it could be an exhilarating psycho-spiritual adventure into the mysteries of nature's becoming; it could be a comprehensive endeavor to unravel at least some of the meaningfulness of the universe. As in traditional societies,

work could become again what Goulet called "a cosmic act" rather than remain what it is in techno-economic civilization: "a specialized function."[131] Meditative idleness could become an important part of our living-learning experience; the right to laziness an inalienable privilege for everyone. We would assume responsibility for whatever we do or don't do. "Responsibility," stresses Roszak, "there we have the missing factor in both capitalist job enrichment and collectivist work morale, the crucial distinction that separates mere employment from true vocation. To have a vocation is to work with responsibility--not in any merely legal sense, nor in the sense of fearing that one will be pointed out as a slacker by one's workmates and reported to the party--but in the sense that our work is ourselves; we are at one with it because it grows from all that we have chosen to become in this life. It is our personal emblem and pledge of honor before the world. We care about our vocation, because if it is misused or proves inadequate, all that gives our life distinction and meaning is called into question."[132]

A caring, vocational responsibility which is suffused with love and a mature narcissism: such ought to be the impelling force of a work ethic which promotes mindful and creative self-expression rather than mindless submission to external standards of efficiency. To be responsible is, according to Roszak, to be "responsible to" and to be "responsible for." "If we have a vocation, we are responsible to our work that it should be well done; we are responsible for our work that it should be well used. We want it to be intrinsically

excellent by the highest standards of our craft or profession; we also want it to be of good and honorable service in the world. In our vocation, we wish to see the good achieved in both its senses: the well crafted and the ethically right."

And what will engender this "double-edged sense of responsibility"? Love! "The love we bear toward the work we do. Just as there is no way to talk about vocation without talking about responsibility, so there is no way to talk about responsibility without talking about love. . . . However law and public opinion may define our liability, we can hold ourselves responsible only to what we love and for what we love."

To settle for no more than a living wage is to engage in under-dimensioned work. "Responsible work is an embodiment of love, and love is the only discipline that will serve in shaping the personality, the only discipline that makes the mind whole and constant for a lifetime of effort. There hovers about a true vocation that paradox of all significant self-knowledge--our capacity to find ourselves by losing ourselves. We lose ourselves in our love of the task before us, and, in that moment, we learn an identity that lives both within and beyond us."[133]

What keeps our responsibility alive is its underlying responsiveness to the needs of the persons and hence to the needs of the planet which claims its rights via the calling of the person.

Our calling, our vocation could be self-evaluated, i.e., it could be evaluated in terms of the quality of our experience when we

"personally" grow in step with our vocation. Is the pursuit of our calling satisfying, fulfilling, enlightening, exhilarating? Is it fostering conviviality, love, trust and empathy in us? This would be a psycho-spiritual approach to the evaluation of our vocational unfolding.

Another way to evaluate the realization of our calling is more "objective" in the sense of "other-oriented." "Is the job honest and useful? Is it a real contribution to human need?" These are the crucial questions which, according to Roszak, need to be answered; for, "if a job is inherently worthless, it cannot be a vocation. So, if we encourage people to search for responsible work--for work they can love as an image of their personal destiny--then we must not expect them to go on working for the military-industrial complex or for Madison Avenue, to continue producing "people's bombs" or printing party propaganda. One cannot build a vocation on a lie."[134]

A vocation has to be built on one's own genuine values, needs and aspirations; it has to rest smoothly within one's cultural context. A calling has to be self- and other-centered at the same time; it has to remain in touch with the land, the family and the community and, perhaps most of all, it has to overcome the techno-economic bias against simple livelihood and traditional creative wisdom.

In contrast to synthetic techno-economic existence, life in healthy premodern societies was and is not a bore, no matter what its hardships. Whether one is a farmer, an artisan, a hunter or a housewife, one's work is judged in terms of its quality. "There is a

difference between a good farmer and a bad one, between a good hunter and a bad one--a difference the community appreciates and cares about, because the work is a necessary value to all concerned. To become good at these things is an exercise of one's cunning, experience, inspiration--qualities that, in some measure, extend and define the personality." Contrary to the well-remunerated slaves of the industrial state, working people in premodern societies are more likely to form communities of genuine "mutual appreciation and critical regard--not simply because they are being 'nice' with one another on the job like bored office workers exchanging pleasantries and good humor, but because their work is a real measure of competence at a significant project in the world. This is an irreducible cultural and personal value, for there is, at last, such a thing in our nature as an instinct of workmanship that can tell a honest job from a fake, and cares about the difference."[135]

And what about premodern women? They may still be subjugated to a domineering patriarchal value system, but in contrast to contemporary megacivic women, they are not frivolous appendages to a male-dominated society. They do not boost their family's income with underpaid and meaningless part- and fulltime jobs; neither are they "the 'mere' housewives we might mistake them for. They are possessed of a remarkable repertory of domestic skills which might include midwifery, horticulture, cooking, baking, pottery, weaving, clothes making, tanning, butchery, medicine, ritual acts, artistic decoration, and, of course, child rearing. Even in their usual condition of subjugation, women in premodern societies--or at least

nonaristocratic women--can be judged by real ability at respectable work."[136]

While it may seem that megacivic jobs, albeit mostly meaningless and alienating to those holding them, are necessary for our survival, in ecological reality this is not so. Highly individualized techno-economic and "artificial" jobs do not assure our survival; they threaten it, for, as we have seen, the synthetic environment which permanently expands with techno-economic civilization, destroys the organic matrix necessary for the continued existence of any human sociosystem.

Highly individuated work along more traditional lines, however, "remains a thoroughly dignified and intrinsically engaging use of life. Its vocational meaning is still there, even if an exploitative social system obscures it. The all-important fact is: In premodern society there is no such thing as 'unskilled' labor; there are no workers who exist simply as the routinized adjuncts of machines or assembly lines; there is no one, below the level of the privileged orders, whose life's work is a scam or a boondoggle."[137]

In our vocational approach to work we never ought to "forget that the doing is as important as what gets done, the making as valuable as the made,"[138] and that the fulfillment of human potentiality, linked to its cultural and eco-systemic context, ought always to be central to any sort of ecocommunitarian work. In an ecological and personalist society, thanks to an ecotechnology, work could be leisurely and leisure could be playful. Wrote Mumford: "we know

now that play and sport and ritual and dream fantasy, no less than organized work, have exercised a formative influence upon human culture, and not least upon technics. . . .

"Instead of liberation _from_ work being the chief contribution of mechanization and automation, . . . liberation _for_ work, for more educative, mind-forming, self-rewarding work, on a voluntary basis, may become the most salutary contribution of a life-centered technology."[139] A liberatory ecotechnology could free us _for_ personal work, a personal work _within_ which we could find "the time to converse, to ruminate, to contemplate the meaning of life,"[140] the time to live, to feel, to dream and to be free.

I have now arrived at the close of my survey of what there is and of my suggestions as to what there could be with regard to economic, socio-developmental, ecological and psycho-behavioral considerations. But before I will discuss the basis, the means and the standard for a much needed cultural change, it will be most helpful to us to focus our attention for a while on what I regard as the major historical reasons that have brought about the contemporary problematic world situation, and on those trends in Western thought that may offer helpful insights for bringing about cultural and personal change.

I shall now embark on a comprehensive investigation of why there is what there is and of a historical sketch of the seeds for cultural change.

# PART TWO

# HUMANITY'S PROBLEM AND THE HISTORY OF THOUGHT

# I. INTRODUCTION

## 47. The Importance of the Evolution of Thought

Stupidity explains nothing.
Philip Slater[1]

In Section II of Part One I elucidated what there is and what there could be with regard to what I considered the four crucial indicators of humanity's contemporary world-situation: economics, socio-development, ecology, and human psycho-behavior. In this part my task shall be to explore why there is what there is and why there could be what there could be.

In Section II I will delineate a historical explanation of what there is. I shall not attempt to separately develop the reasons for what there is with regard to each indicator. Rather, I shall assume that the contemporary economic, socio-developmental, ecological and human psycho-behavioral world-situation shares a common history: the history of thought. What follows will be predicated upon the premise that the evolution of a particular thought pattern, which I shall call the classic-theoretic or epistemological rationality, has led to the economic, socio-developmental, ecological and human psycho-behavioral predicament which I have recounted in Part One, and which prevails today. To map out the major characteristics of this particular thought pattern, that shall be the major purpose of this section.

In Section III I will give a critical overview of the history of thought as sketched in Section II. In this overview I shall draw out what I deem to be the crucial manifestations of the history of epistemological rationality.

In Section IV I will sketch the historical framework relevant to my vision of what there could be. I shall assume that what there could be as to the aforementioned indicators is predicated upon a common thought pattern which, in contrast to classic-theoretic or epistemological rationality, has not evolved in a straightforward fashion. This thought pattern, which I shall term romantic-esthetic or psychological rationality, constitutes, so to speak, the seed for cultural change.

In general, this part will provide us with a history of the evolution of thought which will allow us a better grip on our problematic situation; it also will prepare us adequately to handle the question of the basis, the means and the standard for cultural change.

## II. THE HISTORY OF EPISTEMOLOGICAL RATIONALITY

### 48. Some Thoughts on Thought

> Silent thinking is basically not suppressed talking or inaudibly mumbled words or silent laryngeal agitations.
>
> Benjamin Lee Whorf[1]

> It has not been for nothing that the word has remained [humanity's] principal toy and tool: without the meanings and values it sustains, all other [human] tools would be worthless.
>
> Lewis Mumford[2]

Thought has evolved; it is the covert counterpart of neuro-physiological activity and overtly manifests itself in, as or via the cultural behavior of thinking humans. The latter are symbolic animals which have gradually evolved from within an uninterrupted stream of life which has originated in a particular arrangement of matter (organic macromolecules). The evolution of life-forms is the gradual evolution of behavioral forms. The latter may be said to be, in evolutionary sequence: tropism (in phyto-forms), taxis (in zoo-forms), reflex, instinct, learning and reasoning.

The term "tropism" designates a simple continuously oriented movement in plants, the underlying mechanism of which depends on hormonally controlled differential growth patterns, whereas the term "taxis" designates a similar continuously oriented movement in animals, the underlying mechanism of which, however, depends upon

nervous reflexes; the former term is reserved for plants, the latter for animals.[3] Although tropism and taxis are a sort of "oriented movement" - reflex behavior, the term "reflex" designates a more general behavior (and not only oriented movement reflex behavior) which is characterized by "relatively simple and essentially automatic responses to stimuli . . . [whereas] . . . more complicated behavior patterns . . . which are rather rigid, stereotyped, and little modifiable by learning . . . are known as <u>instincts</u>."[4] Behavior patterns which involve enduring changes "due to experience rather than maturation"[5] are designated as learning behavior of which there are many types: habituation, conditioning, trial-and-error, imprinting and reasoning (thinking).

Habituation is the "gradual decline in response to 'insignificant' stimuli upon repeated exposure to them without any positive reinforcement (reward)." Conditioning is "the association as a result of reinforcement, of a response with a stimulus with which it was not previously associated."[6] While the term "trial-and-error" bespeaks its meaning, the word "imprinting" stands for the "rapid learning, during a sensitive period in early life, to react to a particular object (commonly a parent) by attempting to stay near it."[7] Thought, which I will regard as synonymous with thinking or reasoning, encompasses insight learning, generalization learning, concept learning, principle learning and symbol learning.

Insight learning "is the ability to respond correctly the first time to a situation different from any previously encountered. Through insight, the animal is able to apply its prior learning in other

situations to the new situation and, in effect, solve the new problem mentally without the necessity of overt trial and error." Generalization learning, is not quite the same. It is "the ability of an animal conditioned to one stimulus to respond in the same way to other similar stimuli. In simple generalizations, the new stimuli differ very little from previously experienced ones; in manifestations of insight, they differ much more.

"Insight is the ability to respond correctly to new stimuli that may be qualitatively as well as quantitatively different from previous ones. It often requires the mental putting together of several elements originally learned separately."[8] While I shall ignore the fine and complex differences between concept learning, principle learning and symbol learning, I shall stress nevertheless that these three types of "reasoned learning" are particularly human traits.

At any rate, thought, for me will come to be regarded as a cultural phenomenon and as such it will be associated with existence rationality which is based upon core and marginal cultural presuppositions which, in turn, incorporate epistemic as well as esthetic/ethical values.[9] From the "visible" existence rationality of (a part of) humanity at a particular stage of its evolution of thought, one can abstract the "invisible" sets of core and marginal cultural presuppositions of their thought, i.e., the core and marginal culture of that (part of) humanity. In what follows I shall trace the evolution of human thought through various stages which I shall term

cultural paradigms. A cultural paradigm is characterized by the specific set of core cultural presuppositions, i.e., the core culture, of (a part of) humanity at a particular stage of its evolution of thought. A cultural paradigm bespeaks (a part of) humanity's thought pattern or, perhaps more colloquially, its frame of mind.

Now: what distinguishes specifically human thought from non-human kinds of thought? Symbolic consciousness expressable in human language!

Human thought as a learning process may include such learning processes as habituation, conditioning and trial-and-error (common to many other animal species); it may also encompass such "reasoned learning" processes as insight learning and generalization learning (also present in some non-human animal species). But what marks human animal thought is its ability for conceptualizing, for principle and symbol forming and for expressing itself in, as or via human languages.

This creative ability which we may conveniently call symbolic ability is the very source and pre-condition for culture-building, and thus for the world humans live in, for the way they view themselves in that world and for the way they handle it, in short, for their existence rationality. All human cultures owe their existence to that symbolic ability; all cultural evolution translates an evolution of symbolic activity. That is why, in order to understand the contemporary world-situation, we will have to understand the history of thought, i.e., the evolution of its cultural paradigms; that is

why, in order to explain the present day economic, socio-developmental, ecological and human psycho-behavioral predicament, we will want to start from the premise that the history of thought finds its translation in our cultural behavior. This premise, that the history of thought finds its translation in our culture behavior, together with our associating thought with the process by which humans devise a conscious strategy for actualizing their values, for obtaining their goals, and for satisfying their needs, provides adequate reason to regard thought as a cultural rather than a biological phenomenon.

That symbolic ability and activity are the crucial factors in human development (rather than humanity's technical skills), finds also support in Lewis Mumford who argues that "to consider [humans] as primarily tool-making animal[s] . . . is to skip over the main chapters of human prehistory in which a decisive development actually took place." The "decisive development" was their "creation of significant modes of symbolic expression" rather than of tools external to them. To pass over the main chapters of human prehistory is to skip "the emergence of language--a laborious culmination of [humanity's] more elementary forms of expressing and transmitting meaning [which] was incomparably more important to further human development than would have been the chipping of a mountain of hand axes." While tool-using required a relatively simple mechanical coordination, articulate speech necessitated a by far more complex and delicate interplay of the many organs needed for the creation of articulate speech. Not only was language "infinitely more complex

and sophisticated at the dawn of civilization than the Egyptian or Mesopotamian kit of tools," but it also constituted the sine qua non for tool-making. For only when knowledge and practical inventions "could be stored in symbolic forms, and passed on by word of mouth from generation to generation, was it possible to keep each fresh cultural acquisition from dissolving with the passing moment or the dying generation."[10]

Early humans shared their most primitive tools with other primates. Long before they could fabricate any stone or other tools they "possessed one primary all-purpose tool that was more important than any later assemblage: namely, [their] own mind-activated [bodies], every part of it, not just those sensory motor activities that produced hand axes and wooden spears." Their mind-activated bodies compensated for their extremely primitive working gear; while they were not specialized for any specific activity, they were, however, more effective in using greater portions of both their external environment and their equally rich internal psychical resources, precisely because of their extraordinary lability and plasticity.[11]

According to Mumford, then, early humanity's symbolic ability is the decisive factor in the development of culture; it is the means by which humans carved their place in the universe and the means of which their tool-making activities were but a function.

The overdeveloped, incessantly active human brain produced mental energy excessive of what was "needed for survival at a purely animal level." Humans were, "accordingly, under the necessity of

canalizing that energy, not just into food getting and reproduction, but into modes of living that would convert this energy more directly and constructively into appropriate cultural--that is, symbolic--forms. Life-enhancing cultural 'work' by necessity took precedence over utilitarian manual work."[12] Thus, humans are the primarily and distinctly mind-activated animals; the animals that shape the universe, themselves and the interaction of both, according to their core and marginal culture.

Let me now return, however, to thought as such. What is it and how can it be understood? Is it simply subvocal speech?

In anticipation of my discussions in Part Three let us look preliminarily at the relation between thought, language and speech, mainly to establish that thought is not dependent on speech and that speech "more or less" translates thought. Thought is not subvocal speech, but speech is "more or less" vocal thought. While human thought, in the sense of symbolic consciousness, depends upon words and morphemes, i.e., meaningful linguistic units that cannot be divided into smaller meaningful parts, it nevertheless goes beyond them.

"Words and morphemes are motor reactions," writes Benjamin Lee Whorf," but the factors of linkage between words and morphemes, which make the categories and patterns in which linguistic meaning dwells, are not motor reactions; they correspond to neural processes and linkages of a nonmotor type, silent, invisible, and individually unobservable. It is not words mumbled, but rapport between words,

which enables them to work together at all to any semantic result." Insofar as thought is linguistic, i.e., symbolic, this rapport constitutes its real essence; "and that in the last resort renders the mumbling, laryngeal quiverings, etc., semantically de trop. The nonmotor processes that are the essential thing are, of their nature, in a state of linkage according to the structure of a particular language, and activations of these processes and linkages in any way, with, without, or aside from laryngeal behavior, in the forefront of consciousness, or in what has been called 'the deep well of conscious cerebrations,' are all linguistic [i.e., symbolic] patterning operations, and all entitled to be called [human] thinking."[13]

Human thought thus understood as silent and invisible relational process cannot be studied in a biological-materialist fashion. According to Whorf, "an analysis of silent thinking into motor quiverings corresponding to suppressed words and morphemes would no more be a real analysis of thinking than the analysis of a language into actual words and morphemes would be a real analysis of the language. The crudest and most amateurish grammar analyzes more effectively than that, and any scientific grammar is necessarily a deep analysis into relations."

The real essence of human thought is its silence; the silence of rapports or relations "that do not correspond to any verbalized concepts but nevertheless govern absolutely the linkages of morphemes and shape the channels of thinking."

What about the objection of a biological materialist to the effect that, since "silent thinking" corresponds to neural processes

and linkages, it ought in principle be explorable in biological, neuro-physiological terms? With Whorf we can answer that "the pronounced materialist may still be granted leave to regard this matrix of relations as consisting of paths and chains of brain cells or what not which link and relate themselves by physicochemical processes, but no clue to the nature of the rapport, the structure of the matrix relations, can be obtained in this way, any more than the social organization of a tribe could be worked out from the blood groups of its individuals."

In other words, thought cannot be reduced to neurophysiological or physicochemical processes.

"It can only be determined by a penetrating study of the language spoken by the individual whose thinking process we are concerned with, and it will be found to be fundamentally different for individuals whose languages are of fundamentally different types. Just as cultural facts are only culturally determined, not biologically determined, so linguistic facts, which are likewise cultural, and include the linguistic element of thought, are only linguistically determined."[14]

This, then, is my view of thought: thought is not subvocal speech; it is beyond words and morphemes. It may or may not take place at the level of linguistic, i.e., symbolic, consciousness, and if it does, (but also occasionally if it doesn't as in the case of, for example, so-called "Freudian slips") it may be "more or less" expressable in, as or via speech. The "more or less" clause will

make sense when we keep in mind how difficult, not to say impossible, it quite often is to put our thoughts into speech; to express our thoughts in a manner which makes sense to others as well as to ourselves. It is with regard to this difficulty that I wrote earlier that speech "more or less" translates thought, and that speech is "more or less" vocal thought.

Speech may be regarded as overt behavior; without thought there can be no speech ("thoughtless speech" is speech which "bespeaks" poor thought). Thus speech depends on language and thought but not vice versa (mute people are not deprived of language or thought).

In contrast to speech, thought is a form of covert learning behavior. All forms of learning behavior may be viewed as the covert counterparts of neuro-physiological activities, which manifest themselves in, as or via overt physical behavior. Whereas tropism, taxis, and reflexes may be viewed as overt physical counterparts of covert physiological activities, instincts and all higher forms of learning are the covert counterparts of physiological activities which manifest themselves overtly in, as, or via physical behavior. What distinguishes the human animal from all other life-forms is that, in addition to behaving physically, it behaves culturally; it is, as we saw, a cultural animal, i.e., a symbolic animal, i.e., a thinking animal. While some of its physical behavior may be at the level of instinct and unconscious reflexes, most of its physical behavior, nevertheless, is a function of human thought. To understand the human animal is to understand it as a cultural, i.e., symbolic,

animal; is to understand its thought pattern, its frame of mind, its cultural paradigm. To grasp its cultural paradigm is to discern it within its universe and to apprehend its reactions against and proaction upon the latter.

To understand contemporary techno-economic "culture" and its socio-developmental, ecological as well as human psycho-behavioral concomitants, we will have to comprehend the cultural paradigm, the social frame of mind which gave birth to them. This is why it is of utmost importance for us to trace the history of human thought.

By "history of human thought" I do not mean the phylogenetic evolution of thought as a neurophysiological process; nor do I mean the history of concept, principle and symbol formation. I do not regard the history of human thought as the making of the syntax and semantics of languages, either. Rather, my history of thought (which in this section is the history of epistemological rationality) shall depict the sequence of what I consider the major cultural paradigms in, as or via which humanity has carved its place in the world, i.e., has expressed itself culturally. For each cultural paradigm I shall spell out those core cultural presuppositions which I deem to be crucial milestones towards humankind's contemporary "states of mind."

The history of epistemological rationality has led, in linear evolution, to contemporary techno-economic civilization. There is another history, though: the history of psychological rationality. It has brought about, in a non-linear fashion, traditional societies

and is still at the root of contemporary anti-techno-economic sentiment. That history will concern me in Section IV.

So far I have sketched what I think thought ought to be viewed as. Let me now turn to the origin of thought.

## 49. The Birth of Human Thought

> Though we see occasionally a fellow human being who looks simian or people who act like trousered apes, we know at a glance they aren't. What we don't know at a glance is just what the difference consists of.
>
> G. Marian Kinget[15]

So far I regarded thought as a form of learning behavior. But so is, for example, maturation. Moreover, there are forms of behavior which are not of the learning kind. The phenomena of tropism and of taxis are forms of behavior. All living things, plants and animals alike, behave. Organisms behave, organs behave, tissues behave, cells behave, nuclei behave, genes behave, organic molecules behave, inorganic molecules behave, atoms behave, particles behave. What does behaving mean?

Let us assume that behaving is functioning under specific circumstances, and that that functioning can be of a reactive and/or of a proactive kind. Reactive functioning is functioning according to stimuli; is reacting to stimuli and nothing but reacting to stimuli. While reactive functioning may have an impact upon the specific circumstances to which it reacts and in which it occurs, it is not "meant" to have such an impact. A reactive functioning which is "meant" to have such an impact may be said to be proactive.

Atoms and molecules for example "function reactively" under specific circumstances; they react. We speak about chemical reactions. In contrast, two arguing humans, may be seen as reacting to each other's thought, but they also "mean" to influence each other and hence may be said to proact upon each other. City-building humans proact upon nature. Nest-building birds are proactive. A growling dog behaves proactively. All these forms of behavior are "meant" to bring about an impact on the specific circumstances in which they occur, whether they actually do or not. Proactive behavior is a reactive behavior "meant" to impact on. Whatever the reason or the cause (say "conscious" will or "unconscious" reflex or instinct) of proactive behavior it distinguishes itself from reactive behavior in that it overtly and "mean"-ingfully impacts or shapes (or at least attempts to) the specific circumstances in which it occurs.

All matter-forms (stones, water-molecules, nitrogen gas, etc.) and all life-forms (amoeba, cells, caterpillars, dogs, trees, sunflowers, etc.) function reactively. All matter-forms function only reactively; some life-forms (plants and some "primitive" animals) do so, too; but most animal forms (ants, beavers, birds, humans), in addition to functioning reactively, proact upon their natural environment (including members of their own or other species).

Let me label the "behavior" of matter-forms as "reactive-inorganic behavior" and the behavior of "reactive only" life-forms as "reactive-organic behavior." I shall call the proactive behavior of most animal life-forms "proactive-organic behavior."

Human behavior may be viewed as proactive-organic, but, as we saw in the previous chapter, human behavior is preponderantly and specifically symbolic, i.e., cultural. Humans overtly shape their natural environment (including members of their own or other species) in terms of their proactive-cultural behavior which is a function of the cultural paradigm they live in. Human thought, then, brings about proactive-cultural behavior.

The, as of now, last step in the evolution of behavior, which starts with reactive-inorganic behavior and which extends over reactive-organic behavior, then proactive-organic behavior, to proactive-cultural behavior, is marked by the emergence of human thought. The gradual shift from proactive-organic behavior to proactive-cultural behavior characterizes the evolution of some primates into what we would call early humans. This gradual shift of behavior marks the birth of human thought and therewith of the earliest cultural paradigm.

## 50. The Making of the Primeval Cultural Paradigm

> [A human] is born into a world of sensations and motor impulses: [s/]he matures into a world of meanings and values.
>
> Lewis Mumford[16]

> It is the creative nature of [humans] which has refused to let [them] lapse back into that unconscious unity with life which characterizes the animal world from which [they] made [their] escape.
>
> Henry Miller[17]

What were the characteristic traits of the early human frame of mind? How did the shift from proactive-organic behavior to proactive-cultural behavior manifest itself in those who experienced it, namely early humans? What set humans apart from their primate relatives and their competitors?

What follows now is a speculative sketch with occasional stipulative overtones which, in the absence of "factual evidence," ought to be appraised not in terms of their true-ness or false-ness but with regard to their consistency and usefulness as to the overall history of thought I am attempting to develop in this Part Two.

What happened during the evolution of the non-human animal into the human animal?

As I already stressed in the last two chapters, the crucial trait of humanity is its symbolic ability, its power to build culture. Primeval human thought allowed for dreaming in the sense of "the forward-moving counterpart to memory,"[18] for the sensation of awe,

for the magic of speech and for the birth of personality. It was their symbolic ability which early humans must have recognized and nurtured as their true humanness long before they were able to handle tools; it was this same ability which early humans must have "felt" to make a difference among the differences in the primate world.

Out of the terrestrial web of life, which existed long before humans, stepped a creature that, according to Mumford, "dared consciously to be a creator and that found another path to creation than that of biological metamorphosis." In one or more places, at one or more times, this ape-like creature worked its way toward becoming human. "Some alteration in [its] metabolism, some mutation in [its] genes--yes, perhaps some inner impetus and need--endowed [it] with a bigger brain, relatively, than almost any creature but the mouse possesses; and [its] sustained urge to make something of it started [it] on [its] long career." For, argues Mumford, "that change made it possible for [humans] to live in a more complex world, or rather, to take in more of the complexities and possibilities of the real world: it brought with it the development of greater manual skills, finer co-ordinations, greater sensitiveness to both outer stimuli and inner promptings, a greater aptitude for learning, a more retentive memory and a more wary foresight than any of his ancestors could boast."

The overgrown human brain may be regarded as having brought about "an abundance of unused energy not marked for nutrition,

reproduction or defence. In other animals, excess vitality runs off mainly in muscular play. In [humans], it produces a constant undercurrent of sounds, images, exploratory actions."[19]

This abundance of unused energy promoted the switch from "merely" animal like proactive-organic behavior to human animal like proactive-cultural behavior; a proactive-cultural behavior the principal concern of which was not the shaping of tools and the conquest of nature. Rather, early proactive-cultural behavior was absorbed with and in the organizational refinement of mental surplus energy. Early humans were, according to Mumford, primarily "brain-using and symbol-making animal[s] whose first great achievement was the reshaping of [their] own organism and the ultimate creation of a human personality, significantly different from [their] original biological selves."

This transformation encompassed the whole human body (and not merely its hands) and began "with the difficult coordination of a whole group of organs for the achievement of articulate speech and the improvement of interpersonal communication. The primary sources of advanced technology, including repetitive motion, standardization, and division of labor derive--as A. M. Hocart first indicated--from the culture of the body in group rituals, dances, and magical invocations."[20]

The creation of a human personality, i.e., the transformation from a biological self to a personal self implies a human ability for detaching oneself from one's unconscious. The self-transformation

process is a maturation process in which (part of) the unconscious becomes symbolic consciousness. Writes Mumford: "The undifferentiated material for symbols and fabrications rises out of [humans], not waiting for any external challenge, but prompted by [their] own maturation. And it is surely no accident that the least controllable part of this flow--but eventually the most significant, indeed the very source of significance--wells up from the unconscious. What was uniquely serviceable for [human] development was [their] ability to fix and formalise these spontaneous images and symbols, and to attach them to objects provided by the external world."

The images, symbols, meanings and feelings arising from the unconscious were pinned down by words. "Without words [humans] could react to environmental pressures and stimuli; but [they] could not enlarge this milieu into a world that stretches far beyond [their] immediate sight or reach."[21]

Primeval humans knew how to deal with what they symbolized. What they didn't symbolize, they could only deal with via their animal instincts, via their biological selves. What characterized primeval humans was the detachment of their symbolic experience from their non-symbolic (or animal) experience. While this detachment allowed them to enrich their experience of their environment, it did not enable them yet to posit their environment as something apart from themselves, as something "objective." To primeval humans the symbol and the symbolized are still one; so are the experience and the experienced. Primeval detachment is symbolic detachment: the

detachment of what is explicit (the symbolic world) from what is not explicit (the organic/animal world); it is not yet a metaphysical detachment between the symbolic (world) and the symbolized (world).

Proactive-cultural behavior's capacity for detachment was fostered by prolonged human childhood which allowed for play and leisure which in turn provided ample opportunity for a rich emotional life, creative artistic experimentation, and the refinement of communicational and vocal skills, which were far "more significant than any acts that could be described as practical invention or work."[22]

Moreover, "proactive-cultural behavior was marked by its propensity to imitate, to emulate; by its urge for repetition. Elaborates Mumford: "The impulse of imitation, the disposition to make-believe, the habit of lingering over a satisfactory response in memory and working it into a meaningful pattern--these seem to [be] fundamental contributions to truly human development. They were means by which [humanity] detached [it]-self from [its] organic limitations and from the all-to-slow process of biological change. By daily nurture, [it] produced a second nature which we now call culture, trasmitted by imitation and habit." This second nature became humanity's distinctive nature "because it included not merely what [it] was and is, but what [it] loves and admires and purposes to be. All of the labour-saving devices that [humanity] has invented, this earliest invention, that of detachment from the organic, seems beyond any doubt the most important. This achievement paved the way for the free development

of intelligence long before intelligence devised further tools for its own advancement."[23]

The detachment of the personal, cultural self from the biological self prompted a form of narcissism. Without an "excessive vanity and self-love early [humans] might never have explored the principal paths that carried [them] beyond [their] original animal concern with survival and reproduction."[24]

Let us now, with Mumford, look closer at "two traits that, even if they are shared in some dim way by other species, leave no mark on their behaviour, but colour every aspect of [human] existence. . . . One is the capacity to dream and, above all, to transform imagined projections into actual projects. The other is the sense of awe and veneration, not unmixed with anxiety, in the presence of forces that lie beyond the range of [human] intelligence."

Early humans' dream-life was their truly human life; the dream "became the great instrument of anticipation, invention, projection, creative transformation . . . the <u>dream</u> has the special sign of <u>art</u>; it expresses the nature of the dreamer and gives him[/her] further insight into his[/her] own potentialities. This <u>self-expression</u> was an important element in [humanity's] transformation,"[25] and in its becoming <u>consciously purposive</u>.

In contrast to the almost completely biologically structured goal-seeking of non-human animals, human conscious purposiveness is not an integral part of its proactive-organic nature, but the very essence of its proactive-cultural personhood. Human directional,

anticipatory and preparatory "goal-seeking" is, according to Mumford, "detached and externalized as conscious purpose. . . . Possibility and purposiveness, along with anxiety and prudent anticipation, all seem to cluster around [the human] capacity to dream, and to carry this function from the unconscious of sleep to the whole field of his[/her] waking life. By detaching purpose from organic structures and functions [humans] both brought it into consciousness and gave it a special human destination." Through its detachment from its organic self, humanity "breaks away from the purely adaptive behaviour of other species: [it] turns upon nature with counter-proposals of [its] own."[26]

So much for the importance of dreaming for the development from a biological self to a personal, cultural or symbolic self.

No less crucial for this self-transformation was humanity's sense of awe in the face of the "mysterium tremendum,"[27] a sense which techno-economic civilization has severely impaired, if not obliterated. What kind of awe? Awe in the presence of the unconscious pressing forward into symbolic consciousness; awe in the presence of an unknown and unknowable universe; and perhaps, awe in the presence of one's new self, one's power of self-transformation, self-transcendence, and one's fore-consciousness of death.

Awe grows in the depths of the human personality in which, according to Mumford, "the unconscious and the supernatural are united in the form of dynamic images transcending any actual human experience: demons, monsters, dragons, angels, gods take possession of the

dreamer and become more obsessively real than the actual world of here and now, to which [s/]he confusedly returns. With these overpowering images, independent and autonomous, sometimes as vivid in daylight as in sleep, [humans] went farther in the direction of detachment and projection: detachment from the animal, projection of the super-human and the divine."[28] Along with awe came "the sense of the sacred, which has no animal equivalent."[29]

Let me now focus in on the importance of language. I already pointed out that language helped humans to externalize (to project) their unconscious into symbolic consciousness and to detach themselves from their biological selves. While proactive-organic behavior is linked to signs and signals, proactive-cultural behavior is immersed in the realm of symbols. Combining the views of Cassirer, Reichenbach and Royce, G. Marian Kinget elaborated the many distinctions between these two kinds of signifiers. While, according to her, "signs and signals are part of the physical world of being, symbols are part of the human world of meaning."[30] Symbols transcend the biological; they are the essence of the purposeful cultural self in search of meaning. While "signs and signals are associated either by instinct or by learning with the action signified [and] stand in a one-to-one relationship to the object represented, symbols are typically instituted and sanctioned by convention [or] common consent of the parties; they are socially shared [and] stand in a one-to-many relationship to the object referred to; [they] can stand for a wide variety of things at different times and places." In short, symbols

are more flexible; they allow for purposeful self-discovery within a cultural context. They "can have definite or indefinite, specific or nonspecific, concrete or abstract, referents, [while] signs and symbols 'stand for' or 'point to' definite and specific objects only--usually concrete objects." Moreover, while signs and signals "are stimulus-bound, (that is, tied to perception by the senses), time-bound, (that is, confined within the present), and subject oriented," (that is dependent on subjective need or reference), symbols "are independent of the presence of sensory stimulation; [they] transcend time, are conceptual in nature [and] can be object-oriented, (that is, can be independent of subjective need or reference)."[31]

This contrast between signs/signals and symbols marks very well the disparity between proactice-organic and proactive-cultural behavior. The latter which is in accordance with human symbolic capacity has, like the symbol, detached and externalized itself from its biological roots. The birth of thought denotes the beginning of a human self-transcendence or self-actualization process which is constantly powered and stimulated by mental surplus energy and which arises from the symbolic capacity's continual maturing. This self-actualization or self-transcendence process is based on language.

According to Mumford, "language, the most important agent of directed thought, has the special trick of inhibiting autonomous images. Once language is achieved words may indeed summon events

or images into consciousness." And, so he continues, "once [humans] achieved the beginnings of verbal and graphic symbolism, [they] acquired a formal organ of detachment and projection: [they] could take in a large area of experience and keep it unified in [their] consciousness, bringing past and future, near and far, into a common field."

The word became might and the act of naming "a godlike process, a second creation: when one had gotten possession of a name, one seemed to exercise command over the object it identified. No other animal possessed such powers. This was not just the ability to think: it was the power to create, the magic breath of life. With its help the inevitabilities of nature were supplemented with possibilities divined only by [humans]. No wonder primitive [humans] thought, even after [they] had achieved civilised order, that the name was the essence of even divine identity, and that naming and creating were one."[32]

Through "the magic of words" humans created the universe, carved themselves a place in it and masqueraded from self-transformation to self-transformation, in a continuous process of becoming, self-overcoming. They learned to "be themselves" "only by the process of working over [their] original nature,"[33] their original personal, symbolic or cultural selves. From this perspective, then, humans became, according to Mumford, humans "by formalising, ritualising, symbolising, dramatising every natural act [they] performed; and in time this faculty permitted [them] to transform [their] entire environment, bring it closer to [their selves] by

giving it the same attributes. This capacity for aesthetic projection brought forth a second self, a more truly human self, one in accord with [humanity's] still unstated and unfathomed possibilities."[34]

Here we have it: the development of the person, or personhood, of genuine humanness, as a primarily esthetic phenomenon! "Perhaps, by dabbing [their] face with red clay or ochre primitive [humans] sought to establish [their] new personality, visibly different from [their] untouched animal [selves]: the sudden transformation of the mask. The very word personality derives from this formal covering for the face."[35]

The "sudden transformation of(/by) the mask": the becoming of a person. Etymologically speaking a "persona" is somebody who wears a mask; someone who has transcended his/her animal self by making him/her self look differently. This is a creative act, an esthetic act! Here we have human symbolic capacity in its esthetic essence. Here happened the breakthrough of its esthetic primacy! Here we witness the birth of thought bringing about the birth of the person (as opposed to the individualist, a techno-economic phenomenon). The cultural self, i.e., the symbolic self, is a personal self, an esthetic self. It is their esthetic sense which makes humans human, which elevates them above their biological givens. Proactive-organic behavior is biological; proactive-cultural behavior is not. Proactive-cultural behavior is esthetic. Primeval thought was not a verbal-cerebral activity built around epistemological concerns; it

was not essentially cognitive. Primeval thought was what I would call a "psycho-spiritual" activity;[36] it was essentially esthetic. Primeval thought created the sacred; it was magic. Primeval thought shaped the cultural, i.e., personal, i.e., symbolic, self out of the biological self. This essentially esthetic self was marked by its urge for self-overcoming, i.e., self-transforming, toward an ideal self. The self-overcoming, self-transformation process towards a continuously renewing and more ideal self we may also call a self-actualization or self-transcending process. Self-actualization or self-transcendence is a primarily esthetic phenomenon; it is the continuous unfolding of the human symbolic capacity, which is the capacity for human self-expression.

Early humans were self-actualizing; were creating their esthetic personhood. The primeval cultural paradigm fostered psycho-spiritual, i.e., esthetic proactive-cultural behavior. Primeval humanness was psycho-spiritual, i.e., esthetic.

Such, then, was the making of the primeval cultural paradigm, the primeval frame of mind, primeval thought.

A hyperactive brain breeding a plethora of dreams, nearly drowning in its symbols and images; a psycho-spiritual fire devouring the world with the magic of words; a symbolic consciousness detaching itself from its organic roots and turning sacred: too much, perhaps, for the primeval human. Out of the need for checking, controlling, evaluating, redirecting, smoothening, focussing and clarifying the primeval proactive-cultural behavior arose, as we shall see later, a different cultural paradigm.

Let me stress, for now, that the primeval cultural paradigm allowed for the experience of the "mysterium tremendum" which was "not yet divided out into nature, [humans] and God."[37] The most primeval human tribes may be regarded as an assembly of human persons who, though they did not yet conceptually (verbal-cerebrally, "intellectually") distinguish themselves as self-aware "I"s from not-"I"s, nevertheless "felt" (in an esthetic sense) themselves as detached, as distinct from what is not of the tribe and its world, in short, from everything non-cultural. The proactive-cultural behavior of these tribes is primarily esthetic, secondarily utilitarian; their members share a cultural paradigm: the primeval cultural paradigm.

The primeval cultural paradigm nurtured persons, not individualists. Primeval humans were highly individuated, and wholistically integrated in their groups. But, they were also encapsulated within this primeval cultural paradigm.

The primeval cultural paradigm, i.e., the frame of mind of early humanity, was preoccupied with magic, the sacred, myths and dreams. According to Mumford, early humans were innocent of self-consciousness since the self as a separate entity from and within a group, was still non-existent. They "lacked the capacity for independent action and invention which became feasible only after a certain separation had taken place. Subjectively, every part of human experience held together, expressible in meaningful images and symbols; but the price of this unity was insulation from any possible contradictory reality." To judge from the myths and relics which are

available to us, primeval humans were "relatively whole; but in transcending [their] animal state [they] had left the real world, since [they] no longer recognised otherness: what [they] saw and felt and reacted to were [their] own projections, [their] own externalised feelings and urges, into which all outward events were somehow converted."[38]

In short: a deep, exclusive and "monistic" subjectivity was the hallmark of the primeval cultural paradigm. While the primeval frame of mind allowed for a distinction between a symbolic and an organic world, that distinction had not yet ripened into a dualistic subject-object, symbol-symbolized or "I"-"non-I" distinction. There was only one reality; the subjective reality of myths, dreams, images, and words.

This subjective reality certainly varied with the various cultures spread over the earth. While there were many variations of the primeval cultural paradigm, i.e., while the members of different tribes experienced different subjective realities of myths, dreams, magic and the sacred, i.e., while the primeval cultural paradigm allowed for a plurality of subjective reality experiences, it was nevertheless monistic in that all its variations, i.e., all the reality experiences it provided for, were deeply and exclusively subjective. Primeval humans did not live in an "objective" world; they created, subjectively, the world they lived in. Remember: the unfolding of the human symbolic capacity is an essentially esthetic act and therefore a deeply subjective act.

To say that primeval human thought was essentially esthetic, essentially subjective is not to deny that it was also utilitarian. For primeval thought was utilitarian, but not in a biological or proactive-organic survival-oriented sense. Proactive-organic behavior, although it may have esthetic components, revolves nevertheless and primarily around survival needs which are woven into the fabric of biological necessity. Proactive-cultural behavior, however, revolves primarily and essentially (except, perhaps in times of extraordinary physical hardships under stressful environmental circumstances) around survival purposes which are enmeshed within the tissue of cultural choices. Primeval thought was utilitarian in a very special "purposeful" sense: its "utilitarian purpose" was to symbolically demarcate a reality experience. The act of symbolically creating reality was esthetic, i.e., subjective; but it also was utilitarian in that it allowed humanity to function adaptively within its natural as well as cultural environment. Similarly, primeval thought was cognitive in the same very special "purposeful" sense as it was utilitarian. My point is that when we say that primeval human thought was essentially esthetic, we also say that this primeval and esthetic, i.e., subjective, thought had an utilitarian and cognitive function, namely one of formulating survival purposes and of guiding meaningful proactive-cultural behavior. In their very special "purposeful sense" both cognition and utility could be regarded as denoting each other and as one and the same aspect of a primarily esthetic primeval thought.

Not only was the primeval cultural paradigm monistic in that, as I already noted, all its variations, i.e., all the reality experiences it provided for, were deeply and exclusively subjective, but also in that the most fundamental core cultural presuppositions which characterized it were common to all primeval symbolic consciousness.

It is now time that I indicate what these core cultural presuppositions were. Here they are, tentatively: (1) the symbolic is detached from the organic; (2) the symbol(ic) and the symbolised are the same; (3) human thought alone is real; (4) human thought is deeply subjective, i.e., esthetic; (5) human thought creates experiential reality or reality experience which is phenomenal; (6) The creation of experiential reality or reality experience is an esthetic act with a special ("purposeful") utilitarian and cognitive aspect to it; and (7) the cultural, i.e., symbolic, self is esthetic, i.e., subjective and personal.

The order in which I present these core cultural presuppositions is of no avail. What is important is that these primeval core cultural presuppositions characterize a thoroughly esthetic mode of thought rather than an abstractly cognitive one and that they are always implicit in primeval thought but, presumably, never explicitly formulated.

Suffice it to say for now that the primeval cultural paradigm allows for an esthetic reality experience, for subjective self-expression, self-experience and self-actualization. To those who

may object that self-expression, self-experience and self-actualization can't be but subjective or esthetic, I will respond that they must not be so. This is shown by the evolution of epistemological rationality upon which I will elaborate next. Before I do this, however, I must say a few words about the historical duration of the primeval cultural paradigm.

The primeval frame of mind with its core cultural presuppositions has been the dominant cultural paradigm for a vast portion of humanity's evolution. It spanned a period from the dawning of symbolic consciouness to the early experiments with civilization in the East and West (roughly 4000-1000 B.C.). It was marked by early humanity's need to improve upon its humanness, by its continuous unfolding of its symbolic capacity, by its experimenting with myriads of possible esthetic (personal, cultural) selves. During that period and notwithstanding the differentiating and isolating elements that, for the greater part of human history, and certainly for all prehistory, have prevented a unification of humanity,[39] primeval humans slowly but continuously evolved towards all the prime inventions necessary for further and faster self-transfomation: "language, the expressive arts, morality, the use of fire and edged tools, and a body of traditional knowledge [were] sufficient not only to ensure physical survival but social continuity." In sum and according to Mumford, humans transformed themselves into creatures "concerned, not only with the perpetuation of [their] species, but with the development of the good, the true, the beautiful, and the useful, as

the capital instruments in [their] own self-transformation, and as the further by-products of that transformation."[40]

What remained dominant throughout this primeval stretch of cultural evolution was humanity's concern with the esthetic of which the utilitarian and the cognitive were but a function. This holds true for all the proactive-cultural activities wich at one time or another, for one group or another, were prevalent during the primeval period: food gathering, hunting, herding and early forms of plant and animal domestication. Let me stress again, that these activities were not primarily survival oriented, i.e., proactive-organic (although this might have been the case under particularly stressful circumstances), but that they were early humanity's chiefly esthetic ways of self-actualizing, of fashioning itself a place in the world.

It was roughly around 8000-6000 B.C. that a technical and social revolution took place which brought about what Mumford calls "archaic culture."[41] Archaic culture marked the domestication of humans, the birth of the first eco-communitarian settlements. Humans became "domesticated in an intimate, face-to-face environment, the world of the primary community: the family, the tribe, the clan, the village, the neighbourhood."[42]

The communal archaic life was earthbound and centered around the family;[43] it fostered personal selves which tended to be strongly culturally encapsulated. According to Mumford, "the archaic tradition has maintained its hold, with varying degrees of tenacity, in every part of the world right down to our own time: least perhaps

in North America, and most, it seems likely, in India and China. All through Europe, its relics remain in pagan festivals like Midsummer Eve and Carnival, in the persistence of folklore and sympathetic magic, in superstitions about lucky days and lucky numbers, which have defied generations of rational education."[44]

And with the archaic tradition, esthetic reality experience remains alive, too. Practical techno-economic living with its emphasis on the technical and the verbal-cerebral has not totally suppressed or eliminated the aesthetic, the artistic, the expressive, the intuitive, and affective. Why do I mention all this?

To remind you that the primeval cultural paradigm has somehow survived until the present; that, albeit it has become recessive in a dominant techno-economic Western world, it still has not lost its importance. Contemporary traditional societies still function overwhelmingly according to a primeval frame of mind, even if their core cultural presuppositions have evolved when compared to the ones shared by early humanity. My point, then, is to note that in the contemporary world we are basically in the presence of two cultural paradigms, two frames of mind, two patterns of thoughts or two ways of looking at and understanding ourselves, the world, and our place in it. One is the techno-economical one: verbal-cerebral, technical, practical, constructive, analytical, methodological; the other is the primeval one: esthetic, mythological, artistic, expressive, holistic, spontaneous. Let me now focus in on these two kinds of cultural paradigms.

## 51. Psychological and Epistemological Rationality

> The misunderstanding of passion and reason--
> as if the latter were an independent entity and
> not rather a system of relations between various
> passions and desires; and as if every passion did
> not possess its quantum of reason.
> Friedrich Nietzsche[45]

Generally speaking, we have today two cultural paradigms characterizing the present world situation. They are two ways of understanding, of thinking, talking, writing, and of dealing with the world and humanity; both are at odds with each other. Pirsig calls them classic understanding and romantic understanding. According to him "a classical understanding sees the world primarily as underlying form itself. A romantic understanding sees it primarily in terms of immediate appearance." While an engine, a mechanical drawing or electronic schematic is unlikely to appeal to a romantic because s/he sees only a surface reality, the same engine, blueprint or schematic might fascinate a classical individual because s/he sees "that within the lines and shapes and symbols is a tremendous richness of underlying form.

"The romantic mode is primarily inspirational, imaginative, creative, intuitive. Feelings rather than facts predominate. 'Art' when it is opposed to 'Science' is often romantic. It does not proceed by reason or by laws. It proceeds by feeling, intuition and esthetic conscience. . . . The classic mode, by contrast, proceeds by reason and by laws."[46]

The terms "theoretic" and "esthetic" may be viewed as corresponding respectively to the classic and romantic orientation of understanding. "The difference is that the classic reality is primarily theoretic but has its own esthetics too. The romantic reality is primarily esthetic, but has its theory too."[47]

Both kinds of understanding, both types of reality experience (or experiential reality) are rational, each in an appropriate but somewhat different sense. While it is generally accepted today that reason has something to do with the "intellect," i.e., with the verbal-cerebral, the emotions, the intuitive, the esthetic, the effective and the "gut"-feelings (all to be understood in a philosophic sense) are usually not counted as rational. They are often stigmatized as a-rational, irrational or anti-rational. That, however, for example, the emotions are not diametrically opposed to rationality was lucidly expounded on by Solomon who, in his book, The Passions, had set out to destroy what he called "The Myth of the Passions." According to him the emotions are "our own judgments, with which we structure the world to our purposes, carve out a universe in our own terms, measure the facts of Reality, and ultimately 'constitute' not only our world but ourselves. Rather than disturbances or intrusions, these emotions, and the passions in general, are the very core of our existence, the system of meaning, and values within which our lives either develop and grow or starve and stagnate . . . [they are] constitutive judgments according to which our reality is given its shape and structure."[48] The emotions, then, are, according to Solomon, rational.

Let me now assert that all of the psycho-spiritual is organic feeling humanized (culturalized, symbolized, personalized or estheticized), that it is the unconscious made conscious, and that it encompasses the emotions (the affective), the intuitive, the sacred, the magical and the mythical. Then I may ascribe "rationality" quite broadly to the psycho-spiritual, for, there is no reason to deny the "status of rationality" to psycho-spiritual phenomena other than the phenomenon of "emotions." Moreover, the rationality of the psycho-spiritual is evidenced by the origins of thought, which primevally and primarily was an esthetic, magical, sacred and emotional way of transforming a biological self into a cultural self, thus, constituting true humanness as well as its symbolic universe.

Let me, then, regard, from now on, the psycho-spiritual, i.e., esthetic thought, as rational, i.e., with reference to Pirsig's "romantic understanding," as romantic-aesthetic rationality. "Classic understanding" I shall term classic-theoretic rationality.

Classic-theoretic rationality is what I also would call traditional or modern scientific thinking; it is inductive, deductive and reductive; it is analytic and methodological; it is conceptual rather than phenomenological or experiential (even if empirical). While there may be an esthetic to classic-theoretic rationality, the esthetic doesn't account for it. Classic-theoretic rationality is an epistemological rationality.

Romantic-esthetic rationality is the rationality of the emotions (the affective), intuition, the magic, the sacred, the

mythical, the spontaneous. It is felt rather than thought out; it is holistic, phenomenological or experiential rather than conceptual. While there may be a theory to romantic-esthetic rationality, the theory doesn't account for it, either. Romantic-esthetic rationality is a psychological rationality.

Both epistemological and psychological rationality have their roots in the primeval cultural paradigm which is to say that even epistemological rationality originated in the esthetic, i.e., the psycho-spiritual. But, as we saw, early humanity did not evolve (within its primeval cultural paradigm) as an exclusively psycho-spiritual species; it developed technical skills but after it had stabilized its genuine (esthetic) humanness and as a function thereof. We could even say that in late primeval humanity the utilitarian cognitive aspect of the primeval esthetic reality experience had polarized itself into a utilitarian/cognitive side contrasting with the esthetic side (still exceedingly dominant over the former), and that each primeval human living within the primeval cultural paradigm experienced reality primarily in an esthetic mode because his/her esthetic side was largely prevailing over his/her utilitarian/cognitive side. While the experiential continuum of the early primeval human encompassed only the esthetic, the experiential continuum of some of the late primeval humans stretched out into the cognitive. And once there were two sides to early humanity's life, namely "the Promethean and the Orphic, the technical and the artistic, the constructive and the expressive,"[49] the utilitarian/cognitive and

the esthetic, there were also two possibilities for the further evolution of thought, In the following chapters of this section, I shall trace the evolution of thought which drew its impetus from the Promethean, technical, constructive and utilitarian/cognitive side of late primeval humans.

But before I do this I want to add that, with regard to my foregoing discussion, I may say that the early humans, who lived within or according to the primeval cultural paradigm, created and understood their world in a romantic-aesthetic mode. Their psychological rationality constituted (created) what I shall call a phenomenal reality which is an experiential reality created predominantly by the esthetic side of humans. An experiential reality in which a detached and analytic attitude towards experiential phenomena predominates, i.e., in which a concern for the underlying forms of experiential phenomena prevails, is constituted (created) by classic-theoretic, i.e., epistemological rationality. An epistemological frame of mind constitutes (creates) the underlying forms of the phenomenal reality which the psychological frame of mind creates; it constitutes (creates) what I shall call a formal reality. As we shall see, in the chapters to come, formal reality is an experiential reality created predominantly by the cognitive side of humanity.

To repeat briefly and to avoid any confusion of terminology: I have noted that the contemporary world functions basically according to two kinds of rationality (two modes of understanding, two frames of mind, two kinds of thought-patterns, two cultural

paradigms). One is classic-theoretic, i.e., epistemological; the other romantic-esthetic, i.e., psychological. The former, as we shall see in the next chapter, originated in the latter.

Both formal and phenomenal reality are experiential realities. What makes the one formal and the other phenomenal is, as we shall see, a difference of emphasis in the balance between the esthetic and the cognitive side within humans. If the esthetic largely prevails over the cognitive, a human's experiential reality is a phenomenal reality. This was the case for all primeval humans, i.e., for all humans living within and according to the primeval cultural paradigm; it still is the case for romantics within modern societies and the majority of the members of traditional nations. If the cognitive side predominates, experiential reality is a formal reality. This is the case for contemporary techno-economic citizens. If none of the two sides predominates, experiential reality may become balanced between formal and phenomenal reality. This was the case for the cultural paradigm I shall treat next (and in Medieval monastic life, as we shall see in Section IV).

In the following, I shall trace the evolution of epistemological rationality from the primeval cultural paradigm to contemporary techno-economic civilization.

One more point, however. Only once could all of humanity be subsumed under one cultural paradigm: the primeval one. It was not until around roughly 4000-1000 B.C. that humanity's relentless experimentation with countless cultural (esthetic) selves and its

need to control, channel and to otherwise regulate its boundless symbolic creativity, came to change slowly the primeval cultural paradigm towards a reality other than a phenomenal one.

## 52. The Transitional Paradigm: The Emergence of Abstraction

> As reason and order began to prevail in life,
> the irrational and the supernatural intervened
> in order to maintain social stability.
> Lewis Mumford[50]

While phenomenal reality continued to be the reality of the majority of humans, while tribal life continued to be their life, one part of humanity underwent cultural transformations which replaced tribal life with "civilized" life, the village with the city, internalized rules and customs with externalized laws and institutions, a well-integrated ecocommunity with a sociosystemic conglomerate. The latter was "a new kind of unity based on division and specialisation: a new uniformity imposed by deliberate repression."[51]

Between roughly 7000-2000 B.C. and from Egypt to China great technical advances lead to the domestication of plants and the taming of cattle and beasts of burden which, in the great river valleys, facilitated the making of large economic and political units. These early forms of civilized life were fatal to tribal and individuated personhood. They subordinated humans "by methodical compulsion and regimentation, backed by a flourish of force. In that sense, civilisation is one long affront to human dignity."[52]

This persistent insult to human dignity and personal potentials blocked individuation and gave rise to two kinds of individualized humans: the autonomous-domineering individualist and the dependent-servile individualist. The former were the rulers and pharaohs, the latter the workers and the slaves. The latter, partial humans who had lost their primitive wholeness, were the products of "the subdivision of labour and the specialisation of work."[53] While the former were the primeval aristocrats, the latter were the forerunners of modern-day techno-economic workers.

While the slaves were treated by sub-human standards, non-slave workers were cast or cast themselves into "occupational groups with permanent fixed roles: soldiers, merchants, scholars, scribes, administrators. In numbers that no earlier culture could have supported, these specialised groups practised their callings, with mechanical efficiency and expertise. From now on, right down to our own day, 'life' means essentially working life." Moreover, "the social division of classes, based on private property, and the economic division of occupations, based on technical specialisation, thus tended to work toward the same general result: they erected a partial self that put its own specialised competence above the whole self."[54]

Mumford's whole self is what I termed the cultural, esthetic, personal self, the self of the primeval cultural paradigm. Here, in early civilization, we can witness its disintegration into a partial self, a "civilized self."[55] The civilized self was utilitarian

and selfish; in the ruling individual selfishness became excessive. Civilized selves, albeit partial, enjoyed wider horizons than whole, tribal selves. Civilized selves, although highly utilitarian, were still strongly esthetic.

While the cultural, i.e., symbolic, self of the primeval cultural paradigm could be taken as synonymous with the esthetic self and the personal self, the cultural, i.e., symbolic, self of early civilization cannot so easily. For, in the "civilized" human, the utilitarian/cognitive side has come much more to the fore. The cultural self started becoming less personal and more individualistic, less esthetic and more cognitive. The civilized self was a transitional self. The experiential continuum of the civilized self increasingly stretched out into the cognitive.

The ordered life of early civilization counterbalanced and occasionally outbalanced the primeval esthetic self with a utilitarian/cognitive self. Order became beautiful. Elaborates Mumford: "the beauty of an ordered life was no small aesthetic triumph. But in this achievement, the repetitive-compulsive note was never entirely absent: regularity, formal discipline, specialised efficiency were purchased only by a willingness to exclude many of the tempting departures that life may spontaneously offer."[56]

That civilized life was more ordered indicated that civilized thought was more ordered, too. The rudimentary disciplines of astronomy, geometry, mathematics and architecture channeled the cultural self into ordered ways of knowing. It is here that we are witnessing

most distinctively the transition from a phenomenal reality experience allowed for by the primeval cultural paradigm to the beginnings of a formal reality experience allowed for by a frame of mind which tended to give stronger emphasis to the Promethean, the technical, the constructive, the utilitarian/cognitive side of humans than the primeval cultural paradigm did. But as I already noted, this tendency had bad consequences. The whole self disintegrated into a partial, utilitarian, civilized self amidst "slavery, compulsory labour, social regimentation, economic exploitation, and organized warfare."[57] The shift of emphasis from the esthetic to the cognitive side of the self also induced an externalization of that self. In contrast to primeval humans, civilized humans became less preoccupied with their inner selves, (which were fragmented rather than whole) and turned increasingly to external, ideal and surrogate selves, detached from bodily feelings.[58] This turning away towards outward reality marks the slow dissolution of the deep subjectivity of the primeval esthetic self.

While the primeval, whole self was primarily psycho-spiritual and deeply subjective, the civilized, fragmented self (still primarily psycho-spiritual, yet already with a strong cognitive emphasis) externalized its psycho-spirituality into formal, i.e., institutionalized, religion and myths. This ability of the self to externalize itself, to "objectify" itself, may be said to have paved the way for the experience of objectivity, for the recognition of something "outside" the self, for the experience of "objective"

reality. Here was the beginning of the emergence of abstraction, of the reification of thought, of the metaphysical detachment of the symbol(ic) from the symbolized (world).

The externalization of fragmented selves into ideal, surrogate selves, the "objectification" of the psycho-spiritual, i.e., the esthetic, into institutionalized religions and myths, marks the transition period between the primeval cultural paradigm and a new paradigm. The creation of institutionalized religions and myths is still an esthetic and hence a subjective act, but, in contrast to the "primeval" creation of dreams, images and myths, the "civilized" creation of myths and religions is not deeply subjective, in the sense that it helped humans to detach themselves from the non-human and thus constituted their true humanness; rather, civilized humans externalized, institutionalized or "objectified" their esthetic, i.e., psycho-spiritual, needs and thus created religions and myths which stood for civilized humanity's <u>externalized subjectivity</u> and which came to be viewed as having an existence of their own and as independent of human creation (which, of course, they were not). This externalized subjectivity may be viewed as the forerunner of objectivity. The symbol(ic) and the symbolized world, still the same in the primeval cultural paradigm, became now separated. For the primeval frame of mind, human thought alone was real; in the transitional cultural paradigm, human thought <u>and</u> the thought about (the gods, the mythical characters, the myths) were real.

To summarize: With the beginning of early civilization, the primeval cultural paradigm underwent a transition. During the

transitional cultural paradigm (which did not affect all of primeval humanity but mainly that part concentrated around the large river valleys in the East and West), the primeval self became fragmented into a civilized, strongly utilitarian self, a partial self that externalized its esthetic subjectivity into "objectified," institutionalized religions and myths. The deeply subjective and phenomenal reality experience gradually ceded to a very primitive "objective" or "formal" reality experience. The human experiential continuum tended to be balanced between psychological and (relatively primitive) epistemological reality experience, i.e., it tended to be psycho-epistemological.

The transitional cultural paradigm may now be said to be characterized by the following kinds of core cultural presuppositions: (1) the symbolic is detached from the organic; (2) the symbol(ic) is, more or less, detached from the symbolized; (3) human thought is not alone real; the mythological is at least as much, if not more, real; (4) human thought is less psycho-spiritual, i.e., subjective and esthetic, and more cognitive/utilitarian; (5) human thought creates experiential reality or reality experience which is less phenomenal and more formal; (6) the creation of experiential reality or reality experience is less an esthetic act and more a cognitive act; and (7) the cultural, i.e., symbolic, self is less esthetic (subjective) and personal (individuated) and more cognitive (objective) and individualized.

These core cultural presuppositions characterize a less esthetic and more abstractly cognitive mode of thought; they are

more or less what I would call "psycho-epistemologically balanced." What remains to be stressed is that, just as much as with the primeval core cultural presuppositions, the transitional ones remain implicit.

During the transitional period psychological rationality, more strongly imbued with utilitarian/cognitive concerns, was vividly highlighted in Homer's and Hesiod's poetic writings which at the same time contained seminally a nascent epistemological rationality.

From within a psychological frame of mine, Homer portrayed a mythological world in which, according to Stumpf, "there is a power that [Homer] calls 'fate,' a power to which even the gods are subject." In Stumpf's view, Homer's notion of fate "appears to be reaching for a way of describing a rigorous order in nature to which everyone and everything must be subordinate."

Hesiod counterbalanced the gods' control over nature with "the impersonal operation of the moral law of the universe." He assigned to the universe "a moral order, and from this idea it is a short step to say, without any reference to the gods, that there is an impersonal force controlling the structure of the universe and regulating its process of changes. It was this short step that the Milesians Thales, Anaximander, and Anaximenes took."[59]

While Homer and Hesiod stood for the transitional paradigm, the Milesians represented a new paradigm which grew out of the transitional one. To ask, as the latter did, what things are really like and how we can explain the process of change in things, indicated

"a substantial departure from the poetry of Homer and Hesiod and a movement toward what we should call the temperament of science."[60]

We write now of the sixth century B.C. which marks the emergence of epistemological rationality. This is not to say that psychological rationality disappeared. It continued to live on in various types of religions, myths, mysticisms and rituals up to our present day Western Culture. Indeed, "the religious history of the West," writes William Barrett, "is the long story of the varying fortunes and mutations of the spirit of Hebraism."[61]

In his book Irrational Man, he contrasts the Hebraic human of faith and the Greek human of reason and maintains that "Christianity belongs to the Hebraist rather than to the Hellenist side of [human] nature because Christianity bases itself above all on faith and sets the [human] of faith above the [human] of reason."[62]

Mainstream Western religion is Hebraist, is what I would call psycho-spiritual, is of what I would also label a psychological rationality. In contemporary Western techno-economic civilization, psychological rationality is clearly recessive; what dominates is epistemological rationality which emerged in sixth century B.C. Greece.

At that time, the Ionian or Milesian school of thought, notably Thales, Anaximander and Anaximenes, loosened itself from psychological rationality and created epistemological rationality which over 2,000 years of philosophical thought has evolved into contemporary technocratic thinking.

Let us now follow up on what happened in that crucial century, but let us also keep in mind that the seeds for the emergence of

epistemological rationality had already been growing during the transitional cultural paradigm, and that we focus our interest on the sixth century because it provides the written evidence for that development.

## 53. The Flow Version of Epistemological Rationality

> You cannot step twice into the same river.
> Heraclitus[63]

It is with the Greeks that we get, for the first time, to an explicit epistemological interpretation of what earlier civilization already implicitly practiced.

With the Ionian or Milesian school of thought we witness (at least as far as we can tell from written records) a shift in the thought-pattern of some humans who freed themselves from psycho-spiritual concerns to raise cognitive (epistemological) questions.

Thales, who is commonly called the first philosopher, is also the first proto-scientist of the West. He "shifted the basis of thought from a mythological base to one of scientific inquiry," by focusing his interest on the nature of the world. For him "the many are related to each other by the One" which is the cause of all things, the single basic stuff of which things are made of. The One was, for him, water.[64]

His pupil Anaximander, who may be labeled the first evolutionist for his interest in the origin of humans and life, rejected the idea that the One was water. For him the One was "an indefinite

or boundless realm." An unoriginated and indestructible primary substance, the One has eternal motion.[65]

The third and last of the notable Milesian philosophers was Anaximenes who held that the One is air, which is boundless, in that it is everywhere, as well as specific and tangible.[66]

These then were the Milesian philosophers who, although they "appear to have proceeded with scientific concerns and temperaments, . . . did not form their hypotheses the way modern scientists would, nor did they devise any experiments to test their theories. Their ideas [had] a dogmatic quality, a mood of positive assertion, rather than the tentativeness of true hypotheses."[67]

The three Milesian philosophers were largely responsible for the philosophic crystallization of epistemological rationality. They were proto-scientists attempting to understand the "physis," i.e., the ultimate stuff which constitutes phenomenal reality. They held a monistic, materialist, and organic view of the universe. The One was seen as material and, most importantly, as changing. The Milesians were flow philosophers. They looked for the essence of ultimate reality and understood it to be flowing (in motion) and to contain its own principle of action or change. The Milesians, therefore, may be said to have created a flow version of epistemological rationality, which I shall henceforth refer to as the cultural flow paradigm.

Whereas the Milesians were concerned with the basic stuff of the universe and with how things came into being from the One, the Pythagoreans probed into the order, structure, and ratios of the

determinate and bounded forms of the phenomenal and material world which, according to them, was ultimately constituted by number. In contrast to the Milesians, the Pythagoreans were pluralists who rejected "the assumption that reality is One. Instead, they believed in a plurality of things, that there exist a quantity of separate and distinct things and that, therefore, motion and change are [ultimately] real."[68]

Despite their efforts in structuring the universe in terms of numbers, which prepared the way for a more structure- and quantity-oriented thinking, the Pythagoreans described ultimate reality as full of flux and therefore may be considered as flow thinkers.

The most famous and also the last of the Greek flow thinkers was Heraclitus. For him the One was flux; but in contrast to the Milesian flow thinkers who assumed the One to contain its own principle of action or change, Heraclitus "thought he had discovered the principle of change itself" when he identified change with fire. Change, i.e., fire, is unity in diversity. But Heraclitus' major contribution to the proto-scientific aspect of the cultural flow paradigm was his notion of logos. The logos is the universal reason which is immanent in all phenomenal things. The concept of logos "formed the foundation for the classic theory of natural law, which, with some variations, has had a continuous impact upon Western thought and political practices, as it was preached by the Stoics, was adapted by early and medieval Christian theologians, . . . and is even in modern times a vital theory of the nature of law."[69]

After Heraclitus flow philosophy came to a complete standstill and was not to be reactivated until approximately 2,000 years later (notably by Bergson and Whitehead). Such then was the short-lived history of the flow version of epistemological rationality.

The cultural flow paradigm may be regarded as characterized by the following kinds of (implicit and explicit) core cultural presuppositions: (1) the symbolic is detached from the organic (implicit); (2) the symbol(ic) is detached from the symbolized (implicit); (3) human thought is not real; neither are the mythological and the phenomenal world; what is real is the "ultimate" underlying the phenomenal (explicit); (4) human thought is cognitive (implicit); (5) human thought creates experiential reality or reality experience which can go beyond the phenomenal to the ultimate (explicit); (6) the creation of experiential reality or reality experience is a cognitive act (implicit); (7) the cultural, i.e., symbolic, self is cognitive and partial (implicit); (8) ultimate reality is "logically" (from Heraclitus' logos) and understandably structured; it is one and only one way (explicit); and (9) ultimate reality is material; it is "flowing," in motion, in flux (explicit).

With regard to the above core cultural presuppositions, let me note four important points: (a) with the cultural flow paradigm the core cultural presuppositions have come to characterize an abstractly cognitive mode of thought rather than an esthetic one; (b) for the first time with the cultural flow paradigm some core cultural presuppositions have become explicit, while others remained implicit;

(c) the explicit distinction between phenomenal and ultimate reality indicates a clear demarcation between the esthetic and the cognitive side in humans. "Real reality," "basic reality," or "ultimate reality" denote what I termed "formal reality" when I discussed the two kinds of experiential reality in Chapter 51. The ultimate reality the flow philosophers were concerned with may be viewed as a very general and a very vague metaphysical conceptualization of the beginning of the formal reality experience allowed for by the transitional cultural paradigm which tended to give stronger emphasis to the cognitive side in "civilized" humans. The term "conceptualization" is meant to indicate that the flow philosophers' experiential reality was cognitive. The flow philosophers' ultimate reality was still a pre-formal reality. They did not yet think in terms of reducing the phenomenal to the ultimate. As I proceed to describe the further evolution of thought, we will come to see how ultimate reality experience becomes formal reality experience, i.e., the experience of the underlying forms of experiential phenomena; (d) reality experience can be but does not have to be an ultimate reality experience. Phenomenal reality experience was evolutionarily prior to ultimate reality experience. Without the former there could not be the latter. During the transitional cultural paradigm and the cultural flow paradigm formal reality experience was in the making.

In contrast to the core cultural presuppositions prevalent during the transition period, the new core cultural presuppositions bring the very primitive "objective" or "formal" reality experience

of that transition period into a sharper focus. There is an "objective" universe out there which is not merely phenomenal but contains an "ultimate logos." According to our written evidence, the Milesians were the first to attempt an interpretation (however primitive it may have been) of the "formal" or "objective" interrelationships among phenomena in terms of ultimate causes or reasons. They were interested in the underlying forms of the reality they experienced; their's were the first epistemological minds.

The core cultural presuppositions of their cultural flow paradigm were cognitively (epistemologically) rather than esthetically (psycho-spiritually)oriented. The creation of the phenomenal world was still an esthetic and hence subjective act, yet, the interpretation of this phenomenal world was not: it was a cognitive (epistemological) enterprise to make sense of one's esthetic (psycho-spiritual) creativity. However, the Milesians were not (explicitly) aware of this.

Compared to the duration of the primeval and the transitional cultural paradigm, the cultural flow paradigm lasted only for a minimal amount of time: roughly a century.

## 54. The Structure Version of Epistemological Rationality

> . . . what is, is uncreated and indestructible, for it is complete, immovable and without end.
> Parmenides[70]

In the fifth century B.C. epistemological rationality took on a different form; it went structure. The One was not seen anymore

as flux, but as immutable, as fixed. The shift from the short-lived flow version of epistemological rationality to its structure version was a most crucial event, for the latter evolved refined characteristics which led to seventeenth century science which in turn and in its methodological perfection served as the basis of contemporary techno-economic civilization. What, then, is the history, in general terms, of the structure version of epistemological rationality?

Parmenides, the founder of the Eleatic school of philosophy and a contemporary of Heraclitus, fiercely opposed the view of Heraclitus and the Milesians who held that stability was an illusion. Phenomenal reality, for him, was not moving and thus the One was not flow. On the contrary, he and his disciple Zeno argued that phenomenal change is an illusion, and that the One is one single Being: material, continuous, complete, immutable and motionless. Whereas earlier philosophers viewed phenomenal reality and ultimate reality as more or less the same, Parmenides was the first to call phenomenal reality "appearance" and ultimate reality "true reality." He thereupon differentiated between opinion and truth, a distinction which would become crucial for Socrates and Plato. "Although common sense would say that things appear to be in flux and, therefore, in a continuous process of change, this opinion based on sensation, must, [said] Parmenides, yield to the activity of reason, which is able to discern the truth about things, and reason tells us that if there is a single substance of which everything consists, then there can be no movement or change."[71]

Parmenides and Zeno may be said to have created the structure version of epistemological rationality which I shall henceforth refer to as the cultural structure paradigm. They also emphasized the primary role of reason. By denigrating sense experience as unreliable source of knowledge, they blazed the trail for Socrates' dialectical reasoning and Plato's idealistic theory of the Forms. Plato's disciple, Aristotle, recognized, however, the importance of sense experience (knowing that) and viewed it as complementary to reasoning (knowing why).

It is Aristotle who distinguished between the sense experience of phenomenal reality and the rational understanding of that phenomenal reality. Phenomenal reality is "objective," in that it is outside human subjects, and in that it has an ultimately "logical," i.e., formal side. With Aristotle, epistemological rationality became logico-empirical. Phenomenal reality was seen as ultimately structured.

It was with the making of the cultural structure paradigm in the fifth and fourth century B.C. that the foundations for contemporary techno-economic civilization were laid. This, of course, sounds like an overstatement unless we dig deeper into the evolution of that paradigm, unless we watch closer the developmental changes of the core cultural presuppositions which characterize it.

This I shall do in the next four chapters. I shall trace the evolution of the structure paradigm, first, with respect to the core cultural presupposition that reality is "ultimately" immobile

and "logically" structured and, second, with regard to the core cultural presupposition that the symbol(ic) is detached from the symbolized (world).

## 55. Telo-Science

> The science which knows to what end each thing must be done is the most authoritative of the sciences.
>
> Aristotle[72]

Let us now have a close-up look at the cultural structure paradigm with regard to the core cultural presupposition that reality is "ultimately" immobile and "logically" structured.

The classic period of the structure paradigm started with Parmenides (in the fifth century B.C. in Greece) who, together with his pupil Zeno, argued that the world was material, immobile and structured.

Empedocles, a contemporary of Zeno, tried to overcome the Heraclitean/Parmenidian split by integrating both the flow and structure view of the universe into his world. For him, phenomenal change is made from the rearrangement of ultimately unchangeable units.

This view is fundamental to the atomist Leucippus and Democritus. Whereas for Empedocles ultimate reality was not the One, but the Many and whereas, for him, the Many were fire, water, earth and air, which in themselves were unchangeable and the combination of which formed all the changeable phenomenal objects, the atomists viewed ultimate reality as constituted not by four but by innumerable

units: the atoms. The atoms, for them, made up fire, water, earth, and air as well as all objects. Nature consisted of space and "everything was the product of the [accidental] collision of atoms moving in space. Their theory had no place in it for the element of purpose or design, and their materialistic reduction of all reality to atoms left no place, and in their minds no need, for a creator or designer." According to Stumpf, Leucippus' and Democritus' atomic theory was so formidable "that although it went into a decline after Aristotle and during the Middle Ages, it was revived and provided science with its working model for centuries to come."[73]

With the atomists, thus, was born the reductionist characteristic of the cultural structure paradigm. The universe was held to be structured by atoms, hence was seen as reducible to them and, concomitantly, was thought of being ultimately understandable as a whole in terms of its parts. The reducibility of all phenomenal reality to its component and ultimate parts came to be the major tenet of science. Classical physics and chemistry were and still are frequently thought to be the pinnacle of scientific inquiries precisely because they are seen as the most successful enterprises in reducing the universe to its most fundamental and elementary aspects.

The atomists, as materialists, were not different from the Milesians or Eleatics, since for them, too, ultimate reality was material. What distinguished them, though, was their belief that the ultimately real material was not a flowing or immutable One, but

an immutable many to which the phenomenally real could be reduced. While previous philosophers tried to distinguish somehow between phenomenal (apparent) reality and ultimate (true) reality and while they speculated about what ultimate reality could be like, the atomists were the first to come up with the idea of reduction, of reducing the phenomenal to the ultimate and of understanding the phenomenal in terms of the ultimate. This was crucial for the cultural structure paradigm in its classic period, for, both its major protagonists, Plato and Aristotle, were "reductionists" in the sense that they attempted to reduce phenomenal reality (the reality of appearances) to an ultimate reality. For Plato this ultimate reality was Form or Idea; for Aristotle, it was substance.

For Plato, the ultimately real, the Idea, the Form, was changeless; what changed was the concrete appearance, the phenomenally real. "This is why," writes Pirsig, "Plato finds it necessary to separate, for example, "horseness" from "horse" and say that horseness is real and fixed and true and unmoving, while the horse is a mere, unimportant, transitory phenomenon. Horseness is pure Idea. The horse that one sees is a collection of changing Appearances, a horse that can flux and move around all it wants to and even die on the spot without disturbing horseness."[74]

Plato speculatively reduced phenomenal flow to ultimate immobility. What makes Plato's speculation the more important for my account of the evolution of the cultural structure paradigm is that he went further than the "structure"-thinkers before him, who

presupposed a difference between a phenomenal reality and an ultimate reality, in that he called the latter "formal." It was Plato who planted the seed for a formal reality experience which was to become scientific (rather than protoscientific); it was he who blazed the trail for coming to grips with underlying form. Moreover, his reductionist move was crucial in that it influenced Western thought through the Middle Ages up to the Renaissance and beyond; the possibility (and indeed the obligation) to reduce the phenomenal to the ultimate became a core cultural presupposition, which was to characterize epistemological rationality up to the present day.

Aristotle, Plato's student, stepped into the reductionist path with an interpretation of his own. According to Pirsig, "Aristotle felt that the mortal horse of Appearance which ate grass and took people places and gave bith to little horses deserved far more attention than Plato was giving it. He said that the horse is not mere Appearance. The Appearances cling to something which is independent of them and which, like Ideas, is unchanging. The 'something' that Appearances cling to he named 'substance.' And that moment and not until that moment, our modern scientific understanding of reality was born."[75]

For Aristotle, the ultimate was substance to which the phenomenal could be reduced. The phenomenal, the subjective, the esthetic had nothing to do with that substance. What was ultimately real was substance, and substance was not just something which was there. Substance was something to which there were formal causes (which determine what a substance is made into), material causes (what a

substance is made of), efficient causes (by which a substance is made into something) and final causes (the purpose for which a substance is made into something).[76] Aristotle's universe was a realm of causes; but, and this is important to stress, his was not a universe of mechanical cause-effect relations; his universe was purposeful, end-oriented (finalist).

Aristotle, then, reduced phenomenal reality to an ultimate reality which was, to play with words, "substantially telic."

With Aristotle, proto-scientific epistemological rationality had finally become scientific; the structure, which the cultural structure paradigm presupposed ultimate reality to be, was purposeful, was telic. We shall call Aristotle's science telo-science, i.e., a science which assumes its object of study, namely the universe, to be purposeful, end-oriented. The telo-scientific world-view remained strongly influential from roughly the fourth century B.C. over the Middle Ages to roughly the seventeenth century.

It is time now to present some of the (implicit and explicit) core cultural presuppositions which characterize the telo-scientific cultural structure paradigm. With the cultural flow paradigm it shares the first eight core cultural presuppositions listed in Chapter 53. To these we can add the following three core cultural presuppositions: (9) ultimate reality is material/ideal (in the next chapter we shall see why I write "material/ideal"); it is immutable, static (explicit); (10) ultimate reality is purposive, end-oriented (explicit); and (11) phenomenal reality can be reduced to ultimate (formal) reality (explicit).

Such, then, are the characteristics of epistemological rationality during its classic, structural and telo-scientific version. It is this version of epistemological rationality which lasted up to the seventeenth century when it underwent some important transformations. The latter were brought about by an evolutionary change of the core cultural presupposition that the symbol(ic) is detached from the symbolized (world). Let me therefore focus in on the evolution of that core cultural presupposition starting with the primeval cultural paradigm and ending in the seventeenth century.

## 56. The Ultimate Detachment

> Descartes lost sight of both the significance of nature and the nature of significance, and failed to understand their interdependence, since the mind that explores nature is itself a part of nature and exhibits otherwise hidden or inaccessible characteristics.
>
> Lewis Mumford[77]

With the shift from the primeval cultural paradigm over the transitional cultural paradigm to the cultural flow and structure paradigms, a metaphysical detachment of the symbol(ic) from the symbolized (world) came to be crystallized. The initial symbol(ic)-symbolized distinction was an implicit human experience—material universe distinction, for starting with Thales through Heraclitus and Parmenides up to Empedocles and the atomists, ultimate reality was seen in a detached manner as material.

The Pythagoreans may be considered as an exception to the materialist philosophy which dominated throughout the flow version

and the earlier part of the structure version of epistemological rationality. In contrast to the dominating notion of matter as primary stuff, they brought forth the concept of form. "For them form meant limit, and limit is understandable especially in numerical terms."[78] When, earlier on, I discussed the Pythagoreans, I viewed them as flow philosophers blazing the way for the more structure- and quantity-oriented mode of understanding of the fifth and fourth century B.C. Let me, now, add that their concept of form was the seed for a more idealistic than materialistic world-view.

Anaxagoras was the first to introduce the concept of mind (nous). "Although Anaxagoras considered nous the moving or controlling force in the cosmos and in human bodies, his account of the actual role of nous was limited. For one thing, the nous was not for Anaxagoras the creator of matter, since he held that matter is eternal. Moreover, he did not see in nous the source of any purpose."[79]

Anaxagoras was still a materialist, but his notion of mind together with the Pythagorean concept of form, opened up the vista that the universe could be something ultimately different from matter. With Plato's Theory of Forms ultimate reality became ideal and the symbol(ic)-symbolized distinction shifted from an implicit human experience—material universe distinction to an implicit human experience—ideal universe distinction. In Plato's cosmology matter is the phenomenal reflection of the universe of Idea, which was structured, immutable, lawful and absolute.

Let me point out, however, that the shift from the human experience-material world distinction to the human experience-ideal universe distinction implicit in the cultural structure paradigm was not so crucial and certainly not definite, for, after Plato both distinctions could still be found in Greek philosophy. Aristotle was an idealist-materialist, the Stoics and Epicureans were materialists and Plotinus' Neo-Platonism was a sort of spiritual Platonism.

With the emergence of the human experience-ideal world distinction implicit in the cultural structure paradigm the human experience-material world distinction did not become recessive, but both became complementary to each other. Both mind and matter stood still in contrast with the human individual; both were of the outside world.

Anaxagoras' introduction of mind as a part of the nature of reality, not only precipitated the switch from the human experience-material world distinction to the human experience-ideal world distinction; it also introduced mind-matter dualism which, it is important to stress, is in the nature of reality outside of the human individual.

The Greek "detachment" of the cultural structure paradigm, then, contained, starting with Anaxagoras, an implicit distinction between human individuals and their universe of discourse which is essentially dualistic.

Anaxagoras' dualism in outside reality was the forerunner for Descartes' dualism. Descartes took mind out of the outside

reality (which was left with matter) and placed it into the human subject, whose body became a part of the external, objective world. Thus, after an interlude of approximately a thousand years (the Middle Ages), the metaphysical detachment of the symbol(ic) from the symbolized shifted from its merely implicit human experience-material/ideal world dualism distinction to an explicit "res cogitans" -"res extensa" dualism.

Once Descartes provided the cultural structure paradigm with the explicitly detached ego, Western structure thinkers could throw themselves head-over-heels into the study of an objective world which was devoid of mind. Mind now belonged to human subjects and human subjects, when they were scientists, were impartially detached from the universe; they were, so it was thought, totally uninvolved in the external reality they were examining.

Thus was achieved the ultimate detachment: the explicit detachment of thought from the thought about, of the symbol(ic) from the symbolized (world).

What started as a metaphysical detachment during the transitional cultural paradigm and the cultural flow paradigm "matured" into an experiential detachment of epistemological rationality from psychological rationality. What is outside "the mind," namely the physical (organic/inorganic) universe, is, according to Descartes, only accessible via what I would call epistemological rationality. One's inner emotional stirrings, one's inner creative and esthetic urges, one's intuitions: they all are the realm of psychological

rationality which, according to Cartesian logic, is experientially independent from epistemological rationality.

With Descartes the thought about had become a "mindless" material world. We are now in the seventeenth century. After a medieval prelude in which many important technical inventions (such as the clock or the printing press) were made and in the aftermath of the Renaissance, the Aristotelian telo-scientific version of the cultural structure paradigm was displaced by a mechanical world-view. In the seventeenth century epistemological rationality went mechanic and with that came great technical transformations. The latter had been prepared for by astronomical studies which, according to Mumford, "provided the frame for a depersonalized world picture within which mechanical activities and interests took precedence over more human concerns."[80]

In the next two chapters I will focus upon the making of the mechanical world-view by trying to get into the mechanical frame of mind of its two perhaps most influential makers and protagonists: Galileo and Descartes.

## 57. Mechano-Science: Galilean Abstractions

> I do not believe that there exists anything in external bodies for exciting tastes, smells, and sounds, etc. except size, shape, quantity, and motion.
>
> Galileo Galilei[81]

> The whole achievement of Galileo lies in his historic decision that the mathematics is the phenomenon.
>
> Theodore Roszak[82]

According to Mumford, Galileo Galilei embodied two crucial attributes of the emerging mechano-science: "empirical knowledge, based on close observation, and theoretical knowledge, based on an ability to formulate and manipulate symbolic abstractions of quantity, number, relationship, structure."[83] His was a "mindless" and "lifeless" world which was relatively easy to manipulate in quantitative terms. However, since living phenomena (for example: dreams, desires and emotions) as well as the secondary qualities of things we perceive (for example: color, sound and odor) cannot be pinned down by mathematical quantities, a mechano-scientific approach to understanding in its wholeness a world which carries not only life but also thought must be incomplete at best. Yet what counted for Galileo's deanimized, devitalized and depersonalized mechano-science, was only a fragment of human existence: its "detached intelligence, and only certain special products of that sterilized intelligence, scientific theorems and machines, can claim any permanent place or any high degree of reality." Human history and subjectivity were

relegated to the irrelevant. "Since Galileo's time, this practice has been known as 'objective science.'

"By his exclusive preoccupation with quantity, Galileo had in effect disqualified the real world of experience."[84]

Though his science challenged the religious belief structure of the time, Galileo committed, according to Mumford, "a crime far graver than any the dignitaries of the Church accused him of." He traded "the totality of human experience . . . for that minute portion which can be observed within a limited time-span and interpreted in terms of mass and motion, while denying importance to the unmediated realities of human experience, from which science itself is only a refined ideological derivative." Moreover, when Galileo divided experiential reality into a subjective sphere to be excluded from science, and an objective sphere, knowable through rigorous mathematical analysis and purportedly freed from human interference, "he was dismissing as unsubstantial and unreal the cultural accretions of meaning that had made mathematics--itself a purely subjective distillation--possible." Nevertheless, "for the better part of three centuries scientists followed Galileo's lead. Under the naive belief . . . that they were free from metaphysical preconceptions, the orthodox exponents of science suppressed every evidence of human and organic behavior that could not be neatly fitted into their mechanical world picture."[85]

Here then we have mechano-science in all its mistaken-ness. Here we witness the explicit differentiation or polarization of

experiential reality into a subjective, esthetic, phenomenal, in short, a psychological reality experience, and into an objective, cognitive, formal, in short, an epistemological reality experience. Moreover, implicit in this polarization process is the presupposition that epistemological rationality has nothing to do with psychological rationality, that in fact, psychological and epistemological reality experiences are experientially split. This make-believe dissociation of the objective from the subjective disregards that the objective is the subjective externalized, form-alized, and distilled, and that it grows out or matures out of the esthetic and thus remains fundamentally esthetic. Remember that, according to my history and during the late primeval and transitional cultural paradigms, the esthetic came to "primitively" form-ulate what was underlying the phenomena it created, i.e., the cognitive aspect of the primarily and essentially esthetic humanness of primeval humanity came to crystallize into a cognitive side polarizing with an esthetic side on an experiential continuum. In the seventeenth century, an explicitly form-alized reality experience came to deem itself experientially detached from any kind of psychological reality experience. The human experiential continuum became split.

It is crucial to note that, with mechano-science, experiential reality is not anymore to be placed on an experiential continuum which ranges from the esthetic to the cognitive depending on how much an individual lets him/herself be influenced by phenomena or by their underlying forms, or depending on in which proportions an individual

creates both phenomena and their underlying forms at the expense of each other. From now on, experiential reality is to be regarded as dichotomized into two completely unrelated experiential realities: subjective, esthetic, phenomenal reality and objective, cognitive, formal reality. This implies that there must be a possibility of switching between the two allegedly unrelated experiential realities; for, otherwise, how could a scientist occasionally be non-scientific and plainly become him/herself in all his/her subjectivity? Indeed, how could a scientist who has been enjoying for a while an unbridled, un-form-alized emotional life, i.e., a psychological experiential reality, how could s/he make him/herself return to selfless detachment and an epistemological experiential reality? That even a mechano-scientist can switch from one reality experience to another evidences that the two supposedly unrelated experiential realities are, in fact, not only related to each other but that, moreover, they lie on one and the same experiential continuum. Whether we call it the esthetic-cognitive continuum, the subjective-objective continuum, the phenomenal-formal continuum, or the concrete-abstract continuum, the psychological and the epistemological are, at any rate, evolutionarily and inseparably linked.

However we may wish to graphically picture the human experiential continuum, it is multi-dimensional. The objective is continuous with and not opposed to the subjective. Phenomenal and formal reality are not different planes within or of reality experience; rather, both are tightly interwoven as the one and only

plane of reality experience. Reality experience or experiential reality is one and whole. Unfortunately, seventeenth-century and the vast majority of contemporary scientists have pledged themselves to the unfounded belief that they are inquiring into "a higher order of reality," when in fact, they are creating "a higher order of abstraction."[86]

To return to Galileo: in dismissing subjectivity, the esthetic, the phenomenal, he had "excommunicated history's central subject," the multidimensional human. He had reduced him/her to a one-dimensional entity, a biological weirdo who allegedly could be objectively detached from what it studied, even from itself and its history. What makes Galileo's misconceptions and misinterpretations so important is that they, "have left a heavy deposit of bias and error in scientific, and even more in popular, thought and technological practice. True, the mechanical world picture, as first put together by Kepler, Galileo, Descartes, Newton, and Boyle, has long ceased to be acceptable in advanced science."[87] True, the philosophy of modern day quantum physics takes account of the observer as influencing the "facts" and dismisses the mechnical world picture and notions such as "elementary particle," "material substance" or "isolated object" in favor of a description of the universe "as a dynamic web of inseparable energy patterns."[88] But, "despite this," Mumford reminds us," the world picture of the scientist, even today, still bears the faded impress of Galileo and Kepler; for, as Schrödinger observed, it still remains without 'blue, yellow, bitter,

sweet, beauty, delight, sorrow'--in short, without the most vivid reports of human experience. Existentially, the scientific world picture is still underdimensioned; because at the outset it eliminated the living observer and the long history recorded in his[/her] genes and his[/her] culture."[89] Yet, we must never forget that "the only world that human beings move about in with some confidence is not Galileo's 'objective' world of primary qualities but the organic world as modified by human culture, that is, by the symbols of ritual and language, by the diverse arts, by tools and utensils and practical activities, by geotechnic transformation of landscapes and cities, by laws and institutions and ideologies."[90]

Unfortunately, seventeenth century mechano-science did not heed humanity's experiential past and cultural biases and deemed the subjective, the esthetic outside of its new method of gaining "objective" knowledge. Writes Mumford: "As mechanical power increased and as scientific theory itself, through further experimental verification, became more adequate, the new method enlarged its domain; and with every fresh demonstration of its efficiency it shored up the shaky theoretic scheme upon which it was based. What began in the astronomical observatory finally ended in our day in the computer-controlled and automatically operated factory."[91]

What made the mechnical world view so attractive and successful was its immense practicability: concrete and visible practical applications were its hallmark, the machine its new god.

"By separating primary from secondary qualities, by making mathematical description the test of truth, by utilizing only a

part of the human self to explore only a part of its environment, the new science successfully turned the most significant attributes of life into purely secondary phenomena, ticketed for replacement by the machine. Thus living organisms, in their most typical functions and purposes, became superfluous."[92]

The machine allegedly had no history, no biases. And yet, as an extension of humanity's values, needs and aspirations it partook in human subjectivity. But so what!? In the mechano-scientific world picture, the complexities of organic evolution and politico-economic processes either bore no meaning or acquired meaning only when reduced to the principles of mechanics. Behaviorist philosophy, for example, deems mechanical explanations as necessary and sufficient explanations of vital and mental phenomena; it is mechano-scientific to the core. Argues Mumford: "In denying the importance of subjective factors, that is, human propulsions, projections, and autonomous responses, the followers of Galileo unfortunately fended off any inquiry into their own subjectivity; and in rejecting values, purposes, and non-scientific meanings, fantasies, dreams, as irrelevant to their positivist methodology, they failed to recognize the part such subjectivity had played in creating their own system."[93] Allegedly disinterested in ethical and esthetic values when doing science, the mechano-scientists did not notice that they had become hooked on a particularly insidious ethical and esthetic value: "scientific objectivity" or "scientific neutrality." To argue that the latter is an epistemic value is to contend, in accordance with

my history of thought, that it is ultimately an esthetic value. Nevertheless, scientific truth came to be regarded as value-neutral and "achieved the status of an absolute, and the incessant pursuit and expansion of knowledge became the only recognized categorical imperative."[94]

Absolutism, regimentation, mechanization: those were the traits of the categorical and dogmatic frame of mind which found perhaps its intellectually most sophisticated protagonist in Galileo's contemporary René Descartes.

## 58. Mechano-science: Cartesian Absolutism

> The [human] body is nothing but a statue or a machine made of earth.
>
> Descartes[95]

> If Descartes had only looked closer at the actual nature of automatons, instead of being hypnotized by their superficially lifelike movements, he would have discovered why they bore so little resemblance to higher organisms.
>
> Lewis Mumford[96]

In Chapter 56 I noted that Descartes explicity and ultimately detached the ego from the physical universe as well as from its physical embodiment. Since his ideas also strongly influenced socio-political thought up to the present day and since I am attempting to account for contemporary techno-economic civilization and its concomitants, I will now rest my attention somewhat longer on him.

Paradoxically Descartes pursued the perfect intellectual detachment from the thought about in a highly interested rather than

disinterested fashion. It was he who championed a knowledge which would be useful in such a way as to render humans the "lords and possessors of nature." Descartes' "scientific interest" was not detached but rather attached; attached "to the social motives that from the sixteenth century on had begun to play," according to Mumford, "an ever more active part in the whole development of Western civilization: in exploration and colonization, in military conquest and mechanical industry. To become the 'lords and possessors of nature' was the ambition that secretly united the conquistador, the merchant adventurer and banker, the industrialist, and the scientist, radically different though their vocations and their purposes might seem." As in the beginning, when "science and technics played a part in furthering these extravagant ambitions and arrogant claims,"[97] so nowadays science and capital- and energy-intensive technology are tightly linked to the values, needs and aspirations of techno-economic civilization.

The absolutism displayed in contemporary technocracy's unconditional reliance on and confidence in an allegedly value neutral science and technology has its forerunner in Descartes' political absolutism which went hand in hand with his epistemological stance towards reality. Whith his famous "I think, therefore I am" he equated thought with being and thus "removed it from all qualifying limitations: thinking itself tended to become unconditional and absolute: in fact, the sole imperative demand of existence."[98] His rigorously methodological thinking led him to prefer an absolutist

form of government to a democratic one. When in his political philosophy he argued for "a predetermined design, laid down by a single mind, to fulfill a single end at a single point in time. . . . Descartes was in fact writing out the specifications for a successful machine." His disregard for a democratic "method capable of embracing the complexities of life without leaving any function or purpose unrecognized, uncounted, or uncared for . . . paved the way for the eventual militarization of both science and technics."[99] Science, for him, was no democratic multi-dimensional enterprise; it had an absolute purpose: the control of knowledge and the control of people.

Small wonder, then, that Descartes also came to regard humans as controllable entities. Except for their minds humans were but machines and machines were what scientists and technologists designed. "In effect, Descartes elevated the scientist into an absolute lawgiver, not of course in his individual capacity, but in his collective role. By turning [humans] into 'machine[s] made by the hands of God,' he tacitly turned into gods those who were capable of designing and making machines."[100]

In contrast to Galileo who had discarded the organic and the mental from his mechanical worldpicture, Descartes strove to compress living phenomena into his reductionist methodologism. Writes Mumford: "What Descartes did by equating organisms with machines was to make it possible to apply to organic behavior the quantitative method that was to serve so efficiently in describing 'physical' events."[101] But while reductionism may be applicable to

physical systems, it fails to come to grips with the complexities of organic and mental phenomena precisely because it works in the opposite direction from these organizing, integrative and holistic processes.

Reductionism attempts to reduce all phenomena to their underlying causes and to explain the former by the latter. It is a causal analysis which "by definition, has no concern with final ends or human purposes."[102] Yet, when Descartes equates organisms with machines he does not render them devoid of purpose, as he might have wished; on the contrary, he unconsciously admits their purpose, for, according to Mumford, a machine model introduces "teleology or finalism in its classic form: a purposeful organization for a strictly predetermined end."[103] What differentiates a machine from an organism, however, is that an organism does not function with regard to a strictly predetermined end. A purposeful organization <u>for a strictly predetermined end</u> "corresponds to nothing whatsoever in organic evolution," nor does it match with anything in mental evolution. "Unlike an organism," writes Mumford, "which is an open system, subject to chance mutations and to many external forces and circumstances over which it has no control, mechanisms are closed systems, strictly contrived by the inventor to achieve clearly foreseen and limited ends. Thus a full-fledged automatic machine is a perfect example of pure teleology, and every part of it bears the same imprint: no machine, however rudimentary, was ever put together by chance or random accretions or natural selection. By

contrast, even the lowest species of organism, according to the doctrine of evolution, has remarkable potentialities that no machine can boast: it can alter its species' character and re-program itself, so to say, in order to seize new opportunities or resist unwanted external pressures. That margin of freedom no machine possesses in its own right."[104]

When Descartes based himself on "the lifelike qualities of clockwork, which exhibit a highly advanced form of mechanical organization,"[105] to conceptualize organic behavior, he "was in fact secretly restoring those very subjective attributes (design, purpose, telos) [which] ironically, Galileo and Descartes himself had supposedly eliminated . . . as outside the realm of positive science."[106]

Just as much as a mechanism such as the clock can only be understood in terms of its purpose, its historic coming about in relation to astronomical knowledge and the conceptualization of time; just as much as a mechanism can be comprehended only with regard to the engineering skills which went into it and blueprints which preceded it, so the organism can only be grasped within its eco-evolutionary context. This requires a wholistic-integrationist and telic approach rather than a reductionist-disintegrationist and mechanic one. Whether it attempts to explain mechanisms or organisms, mechano-science explains by mechanisms; yet, according to Mumford, it is the mechanism itself that must be explained. Moreover, it must be explained from within a holistic

integrationist-telic approach. "In other words," he writes, "the mechanical metaphor is not in itself a satisfactory device for eliminating purely human concerns, for mechanisms are themselves subjectively conditioned fabrications and their own peculiarities, which counterfeit certain aspects of organisms, are precisely what must be explained. Taken by themselves, machines present a puzzle, not an explanation. The answer to that puzzle lies in the nature of [humans]."[107]

With Descartes began the cult of epistemological absolutism; for, while the mechano-scientific method was open to correction, completion, revision and examination, a critique of the basic assumption of that method was taboo.[108] What was true was formal experiential reality; what was reliable was the cognitive. Detached objectivity was the grand illusion of the time and still is prevalent in contemporary technocratic thought, i.e., in contemporary epistemological rationality. And, since according to Mumford, mechano-science "opened no path into private and subjective experience, it was forced to deny either its importance or its existence."[109]

Yet psychological processes, the maturing of phenomenal reality experiences and all organic happenings, may be viewed as mechanisms, in a Mumfordian sense. "If individual processes within the organism can be described, conveniently and accurately, as 'mechanisms,' <u>it is precisely because the fabrication and elaboration of mechanisms as functional working units is a specific organic trait</u> . . . it is not the machine that explains purposeful

organization: it is organic functions that explain machines."[110] Similarly, it is psychological processes that explain epistemological ones and not vice versa.

If, according to Mumford, the first elaborate machines created by early humanity "were composed mainly of human parts, mechanized and organized by the mind [,then] the conscious development of mechanism is a specifically human trait, as visible in the organization of language and ritual as in machines of wooden and metal parts. Mind itself might almost be defined as the organism's mode of creating, utilizing, and transcending its own mechanisms."[111]

Yet, all these considerations did not concern Descartes, a man blindfolded by his absolutism. "By accepting the machine as his model, and a single unifying mind as the source of absolute order, Descartes in effect brought every manifestation of life, ultimately, under rational, centrally directed control--rational, that is, provided one did not look too closely at the nature and intentions of the controller. In doing so, he set a fashion in thought that was to prevail with increasing success for the next three centuries."[112]

Descartes' assumption that "the work of science, if not the destiny of life, was to widen the empire of the machine," led to an increasingly machine-oriented world. First, machines made themselves indispensable to their masters, then they defied, dominated and finally supplanted them. Now the former masters comply to the dictates of the machine and are in dire need to recover their status as a self-determining species.[113] Yet, this will remain impossible as

long as in contemporary techno-economic civilization, the masters, i.e., the technocrats, do not recognize themselves as the slaves of the technological leviathan, and as long as they have faith in technological fixes and bureaucratic efficiency to solve the techno-economic, socio-developmental, ecological and human psycho-behavioral problems they encounter.

Technocratic decision-makers have no interest in undoing what serves them so well: a thoroughly organized state machinery and a planned techno-economy based on large-scale and centralized capital- and energy-intensive technology. They are the apologists of a cultural structure paradigm the mechano-scientific version of which had been formulated on absolutist Cartesian premises, applied with Galilean quantitative rigor and grafted upon political theory.

Following in the footsteps of Descartes, Hobbes, for example, "was to outline a set of principles favorable to a political order that would deliberately turn [humans] into machines, whose spontaneous acts could be regulated and brought under control, and whose natural functions and moral choices would all be channeled through a single responsible center--the sovereign ruler or, in the bureaucratic jargon of our own day, the Decision Maker,"[114] i.e, the technocrat.

The media, electronics and cybernetics may have their "spiritual" roots in Descartes obsession for the absolute; they are, technocracy's toy for blunt or suave oppression and manipulation to defend its own survival interests which masquerade as technological progress. There is no doubt: contemporary techno-economic

civilization is Cartesian and Galilean to the core. Seventeenth-century mechano-science constituted the bedrock, so to speak, for the building of contemporary technocracy. Galileo and Descartes lives in a mechanical world which had little room for purpose, and in which the human being had become an object in an objective world. This world still lives on, today, in the form of megacities and in the minds of those who design production- and efficiency-oriented techno-economic blueprints.

Let us keep in mind, however, that the mechano-scientific version of epistemological rationality was by no means all-pervasive in Western cultures before the twentieth century and that it underwent some refinements before it became institutionalized in the socio-economical philosophy of our day and before it became the master over our megacivic lives.

Before I continue tracing the evolution of the cultural structure paradigm I ought perhaps to bring to the fore a contemporary of Galileo and Descartes, who envisioned the further development of science, its marriage with technics and its potentiality for furthering the human commonwealth: this contemporary was Francis Bacon.

## 59. Mechano-Science: Bacon's Visions

> . . . those foolish and apish images of worlds which the fancies of men have created in philosophical systems, must be utterly scattered to the winds.
>
> Francis Bacon[115]

> Bacon bothers to develop no other criterion of growth than the bluntly operational one: if it works, it is true.
>
> Theodore Roszak[116]

Though Bacon was no theoretical or empirical scientist, he was to assure the expansion and success of the mechano-scientific world-picture. According to Mumford, Bacon extended the scientific method to every department of life and outlined "an ideal institutional foundation for the systematic achievement and application of ordered knowledge. In addition, Bacon declared in no uncertain terms that the final goal of science was 'the relief of [humanity's] estate' and the 'effecting of all things possible.' Thus, in the characteristic vein of British empiricism, he outlined the pragmatic justification for society's commitment to modern science as technology."[117]

To improve the social conditions of human life: such was the goal Bacon assigned to science, the scientists and the technicians. By marrying, in his vision, abstract academic science and concrete everyday technics, hitherto only loosely related, he foreshadowed "the coming impact of science as a corporate activity."[118] Notwithstanding his predictive inaccuracies with regard to the future

evolution and consequences of scientific methodology, Bacon foresaw that science would become a collective enterprise which was to allow humanity to lord it over the earth. Furthermore, he closed "the gap, at least in the mind, between science and technics. He realized that the direct application of systematic thought to practical problems would open up many new possibilities. . . . At the very least, Bacon broke down the mental barrier between theory and practice: he put them on speaking terms, and opened up a new continent for their joint exploitation."[119]

Up to the present century this new continent of experimental science was avidly explored and exploited: so much indeed, that both science and technics became the sociopolitically institutionalized and "objective necessities" of a techno-economic civilization the successful functioning of which is predicated upon the single-visionary expertise of hierarchically integrated and narrowly specialized scientific and technical individualists. Three hundred years before their coming about, Bacon had already conceptualized the corporate scientist, the corporate technologist and Galbraith's "technostructure."

Note that Bacon visualized the contemporary techno-scientific enterprise from within a naive inductivist frame of mind. However, today's techno-science is not inductivist at its core; on the contrary, as we shall see in the next chapter, it operates according to a thought pattern different from 17th century inductivism.

Bacon believed that ambition and curiosity were far more fertile traits of the scientific mind than necessity or knowledge

for knowledge's sake, and "did not rely upon the individual's passion for scientific inquiry alone. He saw that curiosity, to be effective, must enlist not just solitary and occasional minds, but a corps of well-organized workers, each exercising a specialized function and operating in a restricted area."[120] Here Bacon foreshadows Galbraith's "ordinary man" making up the technostructure, "for part of the immense quantitative output of contemporary science," writes Mumford," is surely due to its ability to make use, not only of a few great directive minds, but of a multitude of specialized piece workers, narrowly trained for their tasks, deliberately discouraged from exploring a wider field, indeed often denied any opportunity to do so: workers whose part in the whole process increasingly resembles that of a factory worker on an assembly line. As in a factory, many of their tasks are now being assigned to cybernetic substitutes."

To be efficient, the scientific enterprise, like a factory, became based upon a division of labor which, according to Mumford, "led progressively to minuter subdivisions within each category. As such it proved an effective formula for accuracy, speed, and productivity; likewise, it had the further advantage, from the standpoint of mass production, that it provided for the employment of a whole army of workers incapable of personal initiative or original thought. The smallest discovery, the least significant experiment, may nevertheless fill up gaps in knowledge and lead others to some larger results. In itself the method of analytic dismemberment

favored such piecework: but by the same token, it resulted in the dissociation, segmentation, and insulation of knowledge: failure to realize the importance of the over-all pattern: the organic correlation of functions and purposes."[121]

As a result the corporate techno-scientist comes to know, in Gray Walters' words, "more and more about less and less."[122] His/her skewed and esoteric knowledge becomes, according to Mumford, "accessible only to an inner priesthood, whose sense of power is in turn inflated by their privileged command of 'trade' or official secrets."[123]

The overspecialization and complex hierarchical integration of "ordinary," powerless and hence allegedly irresponsible techno-scientists in an all-powerful, institutionalized and allegedly value-free techno-economic super-mechanism is what Mumford calls a megamachine: a totalitarian collective of efficiency-oriented and submissive individual human parts, which functions automatically to no specific end other than its own survival.[124] The contemporary techno-economic megamachine is the concretization of a Baconian pragmatism, a Cartesian intellectualism and a Galilean mathematization of a nature which was to be conquered in order to quench the absolutist thirst for power which the mechano-scientific cultural structure paradigm nurtured. In Bacon, Galileo and Descartes and their followers, the cognitive side in humans unflinchingly held sway over the esthetic side which was either suppressed, ignored or relegated to the irrelevant. Objective, formal or cognitive reality

experience was to become the reality experience of the epistemological frame of mind. The "underdimensioned mythology of power that Galileo, Francis Bacon, and Descartes unguardedly subscribed to and helped to promote,"[125] is the mindless and lifeless heritage upon which contemporary megacivic life rests. Small wonder, then, that I found so much blame to lavish upon the latter's techno-economic, socio-developmental, ecological and psycho-behavioral manifestations.

It is now time that I formulate the (implicit-explicit) core cultural presuppositions which characterized the mechano-scientific cultural structure paradigm of the 17th century. Here they are: (1) the symbolic is detached from the organic (explicit); (2) the symbol(ic) is detached from the symbolized (explicit); (3) human thought is not real; neither are the mythological and the phenomenal world; what is real is the "ultimate" underlying the phenomenal (explicit); (4) human thought is cognitive (implicit); (5) human thought creates experiential reality or reality experience which can go beyond the phenomenal to the ultimate (implicit); (6) the creation of experiential reality or reality experience is a cognitive act (implicit); (7) the cultural, i.e., symbolic, self is cognitive and partial (implicit); (8) ultimate reality is "logically" and understandably structured; it is one and only one way (explicit); (9) ultimate reality is material; it is immutable, static (explicit); (10) ultimate reality is not purposive, end-oriented (explicit); (11) phenomenal reality can be reduced to ultimate (formal) reality (explicit); (12) the reduction of phenomenal reality to ultimate

reality must be quantitative (explicit); (13) the reduction of phenomenal reality to ultimate (formal) reality is an epistemological move (explicit); (14) there is no limitation to the cognitive expansion of formal reality experience (explicit); and (15) the formal is exploitable and controllable (explicit).

Such are some of the core cultural presuppositions of the Cartesian, Galilean and Baconian cultural structure paradigm which I deem relevant to the evolution of epistemological rationality, which shaped Newton's universe and which (implicitly or explicitly) came to guide virtually all empirical science from the seventeenth to the nineteenth century.

Let me stress that from the fifteen core cultural presuppositions listed, all except four (Nos. 4-7) are explicit; No. 4 eventually will become explicit and No. 5 will undergo a slight differentiation. This we shall see in the next chapter to which I now turn.

## 60. Techno-Science: Positivist Science and Positivist Technology

> The heroic efforts that enabled [humans] to take the great step toward mechanical organization and sustained common effort far beyond the immediate needs for survival eventually give way, in every civilization, to a dreary later stage, the unadventurous one of keeping the wheels turning.
>
> Lewis Mumford[126]

In the previous chapter I noted that Bacon foreshadowed techno-science from within a naive inductivist frame of mind, but that the latter did not underlie the former. While techno-science,

a specifically twentieth century phenomenon, grew out of a three hundred year old mechano-scientific and empirical tradition and while, as I also noted in the last chapter, techno-economics (the economic extension of techno-science) is clearly Cartesian and Galilean at its core, the cultural structure paradigm nevertheless underwent a methodological refinement.

At about the end of the 19th century the inductivist view of science came to be questioned, rejected and replaced by the "methodological" view of science. In contrast to naive inductivism according to which individual scientists had only to collect enough "facts" in order to "induce" a scientific world picture, methodological science dissociated itself from the former's creative adventurism and chose to play safe. Methodological science gradually retreated from the stormy sea of creative, inductive discovery into the haven of what it considered adequate justification or validation.

Methodological science proceeds as follows: first, it advances a hypothesis; then it spells out in an "if-then" fashion the inferences which can be drawn from that hypothesis; after that, it tests its inferences; and finally, based on the testing results, it accepts or rejects the hypothesis advanced. It is extremely important to note that the methodological order in which contemporary science proceeds aims at validating hypotheses; it is not a method of discovery, not a method of inductive derivation, but a method of testing and justifying.

The differentiation between the context of discovery and the context of justification (validation) was strongly emphasized by

Reichenbach, and subsequently gained acceptance to the famous Vienna Circle, an erudite group of logical positivists.[127] The latter proposed specific methodologies and rules which define, according to them, what the nature of science is supposed to be. Hempel's deductive-nonomological explanation which so says that what is to be explained (explanandum) can be deduced from a premise-set (explanans) which consists of general laws and assertions about specific factual conditions,[128] may be regarded as the, as of now, crowning standard of logico-empirical thought.

While the distinction between the context of discovery (the realm of creativity) and the context of justification (the realm of logic and rationality) was meant, by the logical positivists, to give free rein to hypothesizing and to maximize scientific creativity, the institutionalization, hierarchical integration and compartmentalized specialization of twentieth century science brought individual creativity virtually to a halt. Techno-science, as I mentioned in the last chapter, has no room for entrepreneurial scientists; it thrives upon colorless and ordinary automatons that unconditionally comply to its methodological dogma. The latter, backed by its own allegedly value-neutral premises, condones any heuristic devices which may befit its values, needs and purposes. And those, let us remember, are tightly linked with the state and its business affairs as well as its educational practices. Techno-economic civilization and its leading technocratic corps, namely the technostructure, are based upon a Baconian pragmatism and a Galileo-Cartesian mechanism

which in their logico-positivist refinement and methodological straight-jacket have become a modern day cybernetic scientism. In this civilization technocratic professionalism reigns supreme, for its rigorous reliance on the explicit methodology of validation bestows upon it an aura of infallibility.

Techno-economic civilization was born in the marriage between science and technology, none of which are value-neutral (a point I will discuss in more detail in the next chapter, as well as in Part Three, Section II), both of which served and still serve political and economic ends.

Positivist science and its extension, positivist technology, rendered explicit the hitherto implicit core cultural presupposition that human thought is cognitive. The metaphysical Baconian and Galileo-Cartesian notion of objectivity metamorphosed, under logical positivism, into an epistemic notion of objectivity. The philosophy of science in the last fifty to a hundred years has been predominantly concerned with the warrant of scientific beliefs. Yet, its epistemological emphasis is nevertheless in accordance with the explicit and rather metaphysical core cultural presupposition that formal (ultimate) reality is the only reality or that there is only one way the world is. And yet, despite this metaphysical presupposition epistemology serves, incomplete as its grasp of itself may be, as the foundation for an absolutist technocratic philosophy.

This, then, is where the evolution of epistemological rationality has led us: to a megacivic life based on a mega-science

and a mega-technology within a mega-machine-like mega-city in mega-trouble. What started as a cultural flow paradigm and what developed through a telo-scientific and mechano-scientific cultural structure paradigm into a techno-scientific cultural structure paradigm, is an epistemological rationality which allegedly dissociated itself from its subjective, i.e., esthetic roots. Phenomenal reality experience is illusory, and therefore humanity cannot function according to it. Rather, it has to be "run" on the absolutist technocratic premises of positivist science and positivist technology. Such is the modern day new secular religion. Ours is a culture of science, devoted to the cult of science. We have replaced the phenomenal mythologies of dreams, fantasies, intuition, of the sacred and of the magical by the formal mythology of numbers, statistical formulas and lifeless electronic bits of information. In a sterile and mindless cybernetic world the patriarchal technocrat is the new god and the throngs of obsequious consumers are <u>his</u> chosen people. His kingdom is not an otherworldly one: no, it is here and now, on the earth. It is our home and our home is a symbolic creation and a symbolic creation is a subjective creation and a subjective creation is an esthetic creation and an esthetic creation can become a cognitive creation, but the latter ultimately remains esthetic, subjective, symbolic. To ignore this fundamental truth is a fatal mistake which sooner or later will bring the downfall of those who pay lip-service to what Roszak called "the myth of objective <u>consciousness</u>."[129]

The core cultural presuppositions which characterize the techno-scientific cultural paradigm are the same as those which

depict the mechano-scientific one, except two: the core cultural presupposition that human thought is cognitive, implicit in the latter, has become explicit in the former, and the core cultural presupposition that human thought creates experiential reality or reality experience which can go beyond the phenomenal to the ultimate, implicit in the mechano-scientific cultural structure paradigm, has now differentiated into the core cultural presupposition that human thought creates experiential reality or reality experience (still implicit) and aims to reduce phenomenal reality experience to ultimate reality experience (explicit).

We are now left with three implicit core cultural presuppositions (first part of No. 5, No. 6, and No. 7). These are three crucial presuppositions precisely because they are implicit in the present day techno-scientific cultural paradigm and need to be spelled out. For, as long as we don't render explicit the core cultural presupposition that human thought <u>creates</u> experiential reality or reality experience which, when formal, is nevertheless ultimately and in a more or less distilled way subjective and esthetic; for, as long as we don't bring to the fore that the creation of experiential reality is a cognitive act and as such a form-alized esthetic act, we will have no chance to overcome the illusion of "pure" objectivity and hence no way to creatively disintegrate the techno-scientific cultural structure paradigm. Moreover, if we do not expose the core cultural presupposition that the cultural self is a partial self, we will keep on thinking that "the product of thought has been purged of its personal characteristics."[130]

In Part Three of this work, I shall come back to the techno-scientific cultural structure paradigm and its core cultural presuppositions, when I will attempt to work out the basis for cultural change.

I have now arrived at the close of my account of the evolution of epistemological rationality. But before I embark upon the philosophical justification of what there could be I shall elaborate on three important topics which have not come into a clear light in the previous chapters but which we will need to be aware of in more detail for a more comprehensive understanding of Parts Three and Four.

As already hinted at, I shall now examine the history of the ideology of a value-neutral technology. Then I shall stress the importance of the evolution of the Judeo-Christian mentality as to its impact on our environmental values. Subsequently, I shall trace the displacement of quality by quantity during humanity's evolution.

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# III. CRITICAL OVERVIEW OF THE HISTORY OF EPISTEMOLOGICAL RATIONALITY

## 61. The Myth of Value-Neutral Technology

> Technology plays a political role in society, a role ultimately related to the distribution of power and the exercise of social control.
> David Dickson[1]

When we consider techno-economic civilization in all its defects as an extension of the techno-scientific cultural structure paradigm, we are usually not blaming the latter as the culprit for the pathetic economic, socio-developmental, ecological and human psycho-behavioral conditions of the twentieth century. For, according to the conventional wisdom,"the social problems associated with technology stem from the uses to which technology has been put, and not from the technology itself, which remains blameless."[2]

Before I can challenge this widely accepted apology for an allegedly value-neutral and hence innocent technology, I will have to clarify what I mean by technology. With Dickson I shall define technology "as an abstract concept embracing both the tools and machines used by a society, and the relations between them implied by their use." This definition allows me to view technology as a social institution and to distinguish it "from 'technique,' which will be taken as the act of applying knowledge, whether directly or

with the aid of a tool or machine--that is with the aid of an element of technology--to a particular task."[3]

To regard technology as a social institution implies that it does not stand outside of a society, but that it is an integral part of its economic and socio-developmental processes. I had already pointed to the close association among the technostructure, the state, the military and the educational system as well as to the research, development and funding processes, all based on the common denominators of planned productivity, consumption and expansion. What we ought now to be concerned about is "the fact that scientists and technologists are frequently used, not merely to produce the instruments of political action, but also to add a mask of objectivity --and hence political neutrality--to political decisions. The presentation of political issues as technical ones, accessible only to 'expert' debate, has important implications. It legitimates the individual having less and less say in major decisions." The depoliticization of the megacivic masses opens "the way to totalitarianism, the closely co-ordinated control of the actions of all members of society. . . . This tendency has been made increasingly possible by developments in cybernetics--the science of controlling information and communication --and in the design of computerized communication networks."[4]

There is already evidence that dictatorships and autocracies rely on some form of technological base (communication networks, weapons etc.) to control their subjects.[5] And indeed what Roszak

calls the suave technocracy, through media manipulation of consumers, "does it all for you." You need to be responsible only for the satisfaction of the needs you are told you have, and since you cannot possibly have the time to understand, let alone to handle political and socioeconomic problems, you better leave them in the reliable hands of technocratic professionals. As a thoroughly de-politicized and encapsulated megacitizen of a techno-economic wonderland, you will, of course, find no evidence that, "far from being the great democratizer that was to bring equality to all, technology has become yet one more means by which one social class maintains supremacy over another. The more sophisticated that technology becomes, the greater is this effect."[6]

That there is a close relationship between social and technological change, that there are sociopolitical "incentives behind the process of technological innovation" and that there are "social and political values implicit in the design of contemporary technology beyond those of a primarily economic nature,"[7] this I will attempt to elucidate in the remainder of this chapter. I shall elaborate my viewpoint from within the historical context of technological change.

That technological innovation is primarily aimed at increasing productive efficiency in order to maximize surplus value and hence profit for the owner of the means of production as well as to widely distribute the benefit of goods over the consuming masses is so commonplace a belief that it may be labelled an ideology, i.e., in

Dickson's terms, "a particular interpretation placed on phenomena or events that distorts their essential nature in the interest of political ends,"[8] or, as Henri Lefebvre put it, "a collection of errors, illusions and mystifications" which present "an inverted, truncated, distorted reflection of reality."[9] For Dickson, this ideology "has proved an extremely powerful tool in the history of social development. For it has promoted the idea that technology somehow possesses an internal objective logic that determines a unique progression from one stage of development to the next. Technology is therefore held to remain politically neutral in any particular situation, playing an entirely passive role with respect to issues of power and control." Dickson calls this interpretation the "ideology of industrialization."[10] One also could term it the "ideology of technological progress." Its message, according to Dickson, is that "industrialization through technological development is a practical--rather than a political--necessity for achieving social development. It implies an objectivity to the process, and seeks to remove it from debate on political issues. It thus gives a legitimacy to policies that appear to promote the process of industrialization, often regardless of their political, or even social consequences. The social squalor experienced during the Industrial Revolution becomes justified as the 'price' that had to be paid for human progress. The same is said of the present destruction of both the natural environment, and of traditional human communities. To stand in the way of technology is, almost by definition, to be

labelled reactionary. Industrialization is equated with modernization, with progress, with a better and healthier life for all." Techno-economic imperialism sells the same formula "to the underdeveloped countries. They are told that their only hope for the future is to initiate the pattern of industrialization already followed by the developed countries. This is sold to the underdeveloped countries not on its political or social desirability, but as a technical necessity (whether politically desirable or not)."[11]

What the ideology of technological progress has lead to, I have expanded on at length when I treated the economic, socio-developmental, ecological and human psycho-behavioral indicators from the perspective of "what there is." We now need "to distinguish the essential character of the process of industrialization from the ideology to which it has given rise. What the ideology disguises is the degree of political exploitation and manipulation that has, in almost all cases, accompanied the industrialization process and hence the development of contemporary technology. Industrialization has appeared to necessitate, and has hence legitimated, [human] exploitation of both fellow [humans] and the natural environment. The apparent need for authoritarian discipline and hierarchical organization of the factory required to operate complex production-line equipment, for example, is held to justify the accompanying relationships between management and workers. Technological innovation seems to legitimate these relationships by increasing the degree of discipline required to run a factory 'efficiently.'"[12]

If I hold to my view that slavery is still extant in contemporary techno-economic civilization, then I find in the above interpretation of the technological process further corroboration: technology does legitimate oppression and wage-slavery.

According to the traditional history of humanity's evolution (one which I have to reject as faulty from my perspective which regards humanity as a primarily and essentially symbolic rather than a tool-making species), societies and their standard of living are evaluated in terms of their tool- and machine-making and-using capacity, i.e., according to their technological development. This unfounded bias in favor of humanity's pragmatic skills forms, according to Dickson, "the basis of almost all cultural and anthropological investigation up to the early years of the twentieth century, and is still the one most commonly used to indicate levels of 'development.' (It is also the most popular description of school text books, thus ensuring that the interpretation is maintained by the educational system.) The implied model of social evolution is frequently based on the concept of technological determinism, the idea that social development is almost entirely determined by the type of technology which a society invents, develops, or is introduced to."[13]

The Industrial Revolution, for example, is commonly held to have ensued directly from major technological developments such as spinning machines, the use of coal and the introduction of steam-power.[14] The idea that technology develops independently of society and is subsequently imposed upon it and that, then, this allegedly

autonomous technological progress determines social development, needs to be challenged. For, if it is true that "there have been many inventions that were ignored or even suppressed by the society in which they were first produced, some to be re-discovered or re-invented many centuries later under different social conditions,"[15] then it is simply not the case that technology evolves autonomously and in step with its "own" rhythm in utter disregard of sociopolitical circumstances. Case in point: "The use of steam to drive elementary machinery, for example, was known to the ancient Greeks, and the library at Alexandria contained a perfectly working model of a steam engine. Yet it was almost two thousand years later that the idea was put to a practical application. Although this was partly due to the fact that Greek society as a whole lacked the necessary technical and mechanical knowledge required to exploit sources of power on a large scale," it was also partly due to the sociopolitical circumstance that ancient Greece's plentiful supply of slave labor rendered labor-saving devices superfluous.

Furthermore, technological progress does not unilaterally determine social development. There have been, for example, "societies with technical skill and knowledge comparable to that which existed in Europe in the early Middle Ages, but which remained at a relatively low level of development."[16] Take the Chinese. They had sophisticated technological knowledge comparable to that of Medieval Europe and during about the same time span, yet their economic and sociodevelopmental evolution did not lead up to a techno-economic civilization, proof positive that, while technological progress may

affect social development, it does not determine it. Nor does it always progress in a uni-dimensional fashion following pre-determined steps towards a pre-determined end. In the light of the above counter-examples I have to brand technological determinism as a fallacious apology for the simpleminded fetishists of an allegedly value-neutral technology.

A more sophisticated, yet still incorrect or at least incomplete stance to take towards the relation between technological and socioeconomic change would be to suggest "a functional interdependence between technological developments on the one hand, and economic development on the other. According to this interpretation, the machines or techniques which have been developed at any one time in history were those most suited to the demands of the prevailing economic conditions. Similarly these economic conditions themselves encouraged the further development of 'appropriate' technology."[17]

While this concept of functional interdependence between technological and economic development acknowledges that technological innovation is a social process and while it gives due regard to the importance of economic factors, it nevertheless "represents the growth of technology as a linear evolution through successive stages along an inevitable course. At each stage of human history, technology and social organization are claimed to have progressed along independent but parallel paths."[18]

Had it been so, the inevitable linear evolution of technology would have been functionally interdependent with a similarly

inevitable linear economic development, and we would have techno-economic civilization well and "inevitably" established in every part of the world. Here we have again the idea that technological progress, albeit viewed as interdependent with social progress, develops according to an internal logic of its own, functioning in a politically neutral feedback relationship with economic progress.

In reality, however, the political intentions to gain, consolidate or maintain power or control, are the major driving force behind "technological progress."

A prime example of how a technological invention was used to control social behavior patterns is the following: once "bell-towers were springing up everywhere, announcing the regular hours of the day, their prime function was to ensure and formalize devotional obedience, but they also brought regularity into the life of the work[person] and the merchant."[19]

It was easy for the Medieval Church to extend its control over the knowledge and the technology of the time, since both mainly evolved within the monasteries. Moreover, "many of the craft guilds were based on strong religious traditions and hence came under the powerful control of the religious authorities."[20]

Indeed, the Church came to virtually hold a monopoly control over all areas of useful knowledge.[21]

As the monastic mentality carried over into the seventeenth and early eighteenth century, the mechanisms of controlling human behavior came to characterize that period in which groups of craftspeople were brought together into workshops (which constituted the

beginning of factory production and which came to be known as manufacture).[22]

Case in point: the life-style of traditional weavers, erratically alternating between bouts of weaving activity and idleness, did not suit the merchants' business interests. To suit the latter, weaving had to become factory-based. "It seems possible to identify four main reasons for the setting up of factories," argues Dickson. "The merchants wanted to control and market the total production of the weavers so as to minimize embezzlement, to maximize the input of work by forcing the weavers to work longer hours at greater speeds, to take control of all technical innovation so that it could be applied solely for capital accumulation, and generally to organize production so that the role of the capitalist became indispensable. Factories provided the organizational framework within which each of these could be achieved. Thus although machines were present in the early factories, they were seldom the reason for setting up a particular factory. The factory was a managerial rather than a technical necessity. It imposed a new discipline on the whole production process, and was described by Charles Fourier as a 'mitigated form of convict prison.'"

It is crucial to stress that "the factory-based organization of the weaving industry . . . did not, as some historians imply, develop directly from a more efficient technical base; many of the new machines were developed and introduced only after the weavers had been concentrated into the factories."[23]

Clearly: the factory production system was not a predetermined and hence necessary and autonomous step in humanity's cultural evolution; rather itwas willfully conceived to gain efficient control of the working masses for the sake of those who came to concentrate the means of production within their hands. As the workers became more expensive and less reliable for an efficient and cheap production process, machines were willfully conceived to eliminate the human source of instability and thus to mechanize the production process. Again: technological "improvement" was not a predetermined necessity, but a sociopolitical and economic strategy with an end-in-view; namely, social control and political privilege.

How was the belief in the value-neutrality of technology made possible? This will be easy to understand: just consider that technology, after its Baconian visionary marriage with science, has become the latter's pragmatic extension. Remember also that seventeenth century science had dissociated itself from its subjective-esthetic roots into an allegedly objective-cognitive independence. True, for Bacon, science and technology were not just evolving within a social vacuum; they could be usefully applied towards the betterment of the human condition. But this purportedly utilitarian science and technology had a halo of objectivity and hence justification around it, precisely because it was deemed independent of the subjective, the esthetic. As technology became industrial and as humanity moved into the late nineteenth and early twentieth century technological objectivity was still so uncontested that the struggle

between capitalism and communism became a battle between two socio-economic systems which had pledged their allegiance to what they deemed to be a politically and ideologically neutral industrial technology.

Yet, whether communist or capitalist: any large-scale, capital- and energy-intensive industrial technology is sociopolitically oppressive of its wage-slaves and ecologically disruptive of the health of the natural environment. Regardless of political ideology "industrialization . . . is dressed up as an absolute and objective set of values that refuses to recognize the validity of any criticism."[24] Based on scientific methodology, it claims to be a-political and neutral. However, to regard techno-economic evolution as a process "independent of political considerations is an ideological distortion of the history of technology."[25] For, writes Dickson, "one can only understand the nature of the technology developed in any society by relating it to the patterns of production, consumption and general social activity that maintain the interests of the politically dominant section of that society. Within capitalist societies, such interests are maintained by hierarchical patterns of social organization and accompanying authoritarian forms of social control." Since "the dominant modes of hierarchial organization and authoritarian control . . . become incorporated in, and hence come to coincide with the technology that is developed by capitalist societies," and since many nominally-socialist countries appropriated and subsequently developed a mode of production initially formulated

within a capitalist framework, they were obliged "to introduce forms of social organization and control that are essentially capitalist in nature in order to make effective use of this technology."[26]

With all the above in mind I have to conclude that a value-free, a-political or a-moral technology is a myth in which we have been indoctrinated by those who profit from that myth. Both capitalist and communist ideology are ideologies of industrialization, of technological progress; on both sides of the ideological make-belief barrier the technocrats run the technological show in accordance with their own interests and as influenced by systemic circumstances.

In Part Three I shall come back to a more detailed discussion of the myth of value-neutral science. In the meantime let me gloss how humanity came to develop its domineering arrogance towards its environment and how quantity came to replace quality in the evolution of Western thought.

## 62. Judeo-Christian Anti-Ecologism

> To a Christian a tree can be no more than a physical fact. The whole concept of the sacred grove is alien to Christianity and to the ethos of the West.
>
> Lynn White, Jr.[27]

> Despite Copernicus, all the cosmos rotates around our little globe. Despite Darwin, we are not, in our hearts part of the natural process. We are superior to nature, contemptuous of it, willing to use it for our slightest whim.
>
> Lynn White, Jr.[28]

I have occasionally alluded to humanity's domineering attitude towards nature. Where did it come from? How can we explain its origin?

According to Ian McHarg primeval humans "were generally pantheists, animatists or animists. They tried to understand the phenomenal world and through behavior, placation and sacrifice, diminish adversity and increase beneficence. This early empiricism remains a modus vivendi for many tribal peoples, notably the American Indian--and conspicuously the Pueblo--today.

"Whatever the earliest roots of the western attitude to nature it is clear that they were confirmed in Judaism. The emergence of monotheism had as its corollary the rejection of nature; the affirmation of Jehovah, the God in whose image man was made, was also a declaration of war on nature."[29]

The making or at least the confirmation of the anti-ecological world-view can thus be regarded as a feature of the transitional

cultural paradigm. The aspirations for power and domination of the absolutist leaders of early civilization with their early forms of exploitation of humans by humans and of nature by humans, as well as the increasing importance of the utilitarian side with regard to the esthetic side of early civilized humans, might perhaps be connected with the coming about of monotheism. According to McHarg, "the great western religions born of monotheism have been the major source of our moral attitudes. It is from them that we have developed the preoccupation with the uniqueness of man, with justice and compassion. On the subject of man-nature, however, the Biblical creation story of the first chapter of Genesis, the source of the most generally accepted description of man's role and powers, not only fails to correspond to reality as we observe it, but in its insistence upon dominion and subjugation of nature, encourages the most exploitative and destructive instincts in man rather than those that are deferential and creative. Indeed, if one seeks license for those who would increase radioactivity, create canals and harbors with atomic bombs, employ poisons without constraint, or give consent to the bulldozer mentality, there could be no better injunction than this text. Here can be found the sanction and injunction to conquer nature--the enemy, the threat to Jehovah."[30]

Note that Jehovah was a <u>He</u>; that the early absolutist power-mongerers were "hes"; that man was divine not woman and that techno-masculinity raped, oppressed and exploited organo-femininity. In early civilization the patriarchal value-system became sociopolitically

institutionalized with the helping hand of the early religions; later, it became an integral part of Judaism, Islam and Christianity.

According to McHarg, "the creation story in Judaism was absorbed unchanged into Christianity. It emphasized the exclusive divinity of man, his God-given dominion over all things and licensed him to subdue the earth. While Abraham, Heschel, Gustave Weigel, and Paul Tillich, speaking for Judaism and Christianity, reject the literality of this view and insist that it is an allegory, it is abundantly clear that it is the literal belief that has and does permeate the western view of nature and [humans]. When this is understood, the conquest, the depredations and the despoliation are comprehensible";[31] so is the patriarchal value-system.

Initially, during the transitional cultural paradigm, the cultural flow paradigm and the telo-scientific structure paradigm (including the Middle Ages), the anti-nature bias of Judeo-Christianity was relatively harmless. But then "in the Humanism of the Renaissance it made a gigantic leap and it is somewhat poignant that the poverty of the Mediterranean today is a product of the land mismanagement that occurred during this great inflation of the human ego and the increase of [human] powers over nature. The 18th century was a period of pause--the Naturalist view emerged--but it barely arrested the anthropomorphic, anthropocentric surge that swelled in the nineteenth century and is our full-blown inheritance today."[32]

The megacivic individual in all his/her technological glory, in all his/her pseudo-mastery over the earth, is the, as of now,

culmination of the evolution of Judeo-Christianity within the context of epistemological rationality. However, this does not mean that humanity has thus evidenced its exclusive divinity on earth, "but only that [it] has developed those powers that permit the fulfillment of [its] aggressive destructive dreams. [It] now can extirpate great realms of life: [it] is the single agent of evolutionary regression."[33]

Thus, then, ends Western humanity's evolution: it finds itself in a regressive techno-economic bind.

The Judeo-Christian aspiration to dominate nature found a very help- and harmful bedmate in another evolution: the evolution from quality to quantity.

## 63. From Quality to Quantity

> Because quantity remains our main criterion of success, particularly if quantitative effort produces monetary gain, the bulldozing engineer has become the paragon of our civilization and is everywhere wiping out organic variety and human quality.
>
> Lewis Mumford[34]

When I talk about quantity in this chapter, I mean to refer to quantity as an epistemological notion. Remember that the evolution of thought consisted in the distillation, form-alization or abstraction of the subjective, the esthetic into the objective, the cognitive.

If I now associate (for metaphysical reasons which I shall discuss in Part Four) the subjective-esthetic with "the qualitative"

and the objective-cognitive with "the quantitative," I may regard the evolution of human knowing as having shifted from a subjective, esthetic, phenomenal and primarily qualitative mode of knowing to an objective, cognitive, formal and primarily quantitative mode of knowing. Starting with the transitional cultural paradigm, qualitative knowledge came gradually to be reduced to formal knowledge (especially during the telo-scientific cultural structure paradigm) which in turn became gradually reduced to quantitative knowledge (especially during the mechano-scientific and techno-scientific cultural structure paradigm). Quantitative knowledge may be said to be formal knowledge at its "purest."

While from my epistemological point of view the transition from the qualitative to the quantitative began (implicitly) in the transitional cultural paradigm in order to become explicit in the mechano-scientific cultural structure paradigm, the qualitative prevailed as a standard of production or creation throughout humanity's history and up to the nineteenth century. According to Mumford, "finish, aesthetic richness, meaningful symbolism or ritual were considered more important than quantitative productivity. If anything was to be diminished or sacrificed, it was quantity, not quality. The pervasive concern for quality as related to human interest and capacity served as a built-in control over quantity. Thus the whole tissue of human concerns, religious, social, erotic, aesthetic, constantly played over technics and attached it to purposes and goals that transcended purely quantitative expression."[35]

Before the advent of the seventeenth century mechano-scientific cultural structure paradigm, the knowledge of the arts and crafts including primeval "engineering" "was coupled to practice, and it was attached not merely to causal insight into the means, but also to teleological understanding of ends; so that at no point was it wholly detached from its social matrix or its human destination."[36]

The very slowness of the innovative pace of pre-seventeenth century technology "made it possible for a community to assimilate new methods and inventions without disrupting the social order--though even that was not a complete safeguard, for the introduction of coined money in Greece in the seventh century undoubtedly did serious temporary damage. Still, the system operated under a network of human controls and was directed to a variety of other valid purposes besides the advance of science and technology . . . the pace of production was regulated by a concern for quality."[37]

The practical or utilitarian was second to the meaningful. The human value of creation or production was stressed. "Before the seventeenth century this constant humanization was an integral part of mechanization. The empirical knowledge that accompanied technics was of the same order, never entirely cut off from the life-experience and life-purpose of the worker." However, Mumford cautions us, "this is not to overlook the fact that much work that involved hardship and effort continued to be done, usually under threat of physical punishment or starvation. In the daily tasks of the quarryman, the miner, the brickmaker, the smelter, the sailor, the ditchdigger,

there were few aesthetic embellishments: only quantity counted. And it is not by accident that it was from the mine and the arsenal, the least humanized parts of the industrial system, that physicists and technicians after the seventeenth-century drew their chief inspiration, for discoveries in ballistics, hydraulics, and mechanics, and for inventions like the steam engine, the railroad, and the hydraulic pump. Apart from this, qualitative standards prevailed everywhere until the nineteenth century."[38]

That the qualitative, i.e., the subjective-esthetic-phenomenal, could prevail well into the nineteenth century as a standard of production or creation, despite the fact that seventeenth century epistemological rationality had "gone quantitative," may be attributed, so I suggest, to the fact that the core cultural presupposition that human thought is cognitive, implicit since the cultural flow paradigm, had become explicit only with the techno-scientific cultural structure paradigm evolving during the late nineteenth century and especially in the twentieth century. Once the cognitive, i.e., especially the quantitative, was <u>explicitly</u> recognized as <u>the</u> human thought pattern, there was nothing in the way of scientism. Seventeenth century quantitative thinking, combined with the ideology of industrialization and methodological science, became the all-pervasive standard of the economic production pattern of the nineteenth and twentieth century. Before that, the quantitative-cognitive had displaced the qualitative-subjective but only on the level of knowing; as to the economic manifestation of this shift, it was kept in check by psychological rationality.

According to Mumford, a satisfactory dynamic equilibrium between quantity and quality was "temporarily achieved in many cities in western Europe by the end of the thirteenth century. Unfortunately, in the fourteenth century that balance was violently upset by the Black Plague, which, on the most careful estimates, wiped out from a third to a half of the entire population. This enormous loss brought about . . . an immense compensatory effort to repair the quantitative deficiency in both labor and goods." Thus got started the process of quantification. The growth of capitalist enterprise, the intensification of the division of labour, and the increase in labour-saving inventions, all of which preceded the so-called industrial revolution by a long stretch, "converged toward a quantitative economy, progressively disengaged from qualitative interests and social restrictions: time was money and money was power. The whole process was finally etherealized--that is, transposed into a system of effective abstractions--by the invention of the scientific method. This new method discarded all the human diversions and institutional inhibitions that had hitherto placed limits on purely quantitative procedures." As the traditional values could no longer hold in check and counterbalance the new methods of capitalism and physical science, the salutary effects which the latter had in awakening many dormant human potentials, in spreading private wealth and in equalizing human opportunities, were severely mitigated.[39]

Humanity kept losing touch with itself, with its cultural history, its purposiveness, and with the qualitative aspects of its

life and the universe. "The general effect of regarding the purely quantitative methods of seventeenth-century science as the highest type of order," writes Mumford, "was to dismiss qualitative criteria and disregard the more organic and stabilizing processes, thus ignoring the essential human need for continuity, for accumulation, for maintaining variety, for rational assimilation and integration, for the interrelation of parts into ever more complex wholes."[40]

No matter how hard it tried, quantitative methodology could not eliminate human purpose altogether; the latter, according to Mumford, "came back in disguise, as a thirst for limitless power over nature--the power to create human equivalents of natural organisms, in the form of machines or synthetic quasi-organisms; and the power potentially to destroy all organisms now so amply satisfied by the weapons made possible by nuclear physics. The end product of this choice is now in sight: power, thus methodically pursued, without natural limits or human goals, is rapidly becoming paranoid for lack of the very dimensions of life that it rigidly excluded: historical knowledge, political experience, human sensibility, parental feeling, the habits of loving and nurturing and preserving the forms and expressions of life."[41]

What there is with regard to the economics, the social development, the ecological and human psycho-behavior of contemporary civilization is the result of a massive quantomania, hooked on standardization, efficiency, productivity, size and its will to power, yet without built-in brakes, regulators, limiting purposes and goals.

Predicts Mumford: "In the fabulous brave new world that is already visible, electronic computers will play chess with computers, machines will reproduce other machines without human aid, cybernetic brains will match wits--and game theories--with other cybernetic brains equally unconcerned with the history and destiny of [humanity], until finally rocket systems lacking any instinct of self-preservation will exchange nuclear destruction with other rocket systems. As the economy increases in power and automatic perfection, [humanity] will be literally wiped off the map."[42]

Should we not, then, with respect to this vision of Lewis Mumford, pause from our "progressive madness" and re-evaluate our techno-scientific structure paradigm which we so ardently pay homage to? How could we do this? Or at least how could we get started doing this?

Now that we have come to understand the evolution of epistemological rationality, the way it came to breed exploitation and domination among humans and towards nature, and the way it encouraged the substitution of quantity for quality, I suggest that we ought to remember that epistemological rationality is not all there is. While it is clearly dominant in Western societies, while it is spreading to the East, and while most of Westerners stress the quantitative Promethean side of our personality and culture at the expense of the qualitative Orphic side, psychological rationality still survives; albeit recessive, it has nevertheless not been choked to death under the impact of epistemological rationality. Let us keep in mind

that the latter grew out of the former during the transitional cultural paradigm and that psychological rationality constitutes the primeval cultural paradigm.

Psychological rationality which stands for the subjective, esthetic or phenomenal has been systematically suppressed, ignored or relegated to the irrelevant, starting with the cultural flow paradigm and ending with the techno-scientific cultural structure paradigm; and yet, as we have seen, it was always an integral part of epistemological rationality, for, in fact, the latter is a refined, purified, distilled, quantified, object-ified, and form-alized manifestation of the former. The evolution of epistemological rationality is the evolution of the subjective into the objective, of the esthetic into the cognitive, of the phenomenal into the formal and of the qualitative into the quantitative.

Psychological rationality, however, did not have to be supplanted by an epistemological rationality and, indeed, was not until the nineteenth century in the West and for the majority of humans until today. This ought to caution us not to disregard it as simply primeval and/or underdeveloped. While, in the West, epistemological rationality became dominant in the seventeenth century as far as its cultural effects (industrialization, technocratization, dissolution of organic communities into megacities, etc.) are concerned, it was not the frame of mind of the majority of humanity, but only of a minority until roughtly the nineteenth century.

In the following section I shall have a look at what happened to a different evolutionary sequence of cultural paradigms: that

which led from the primeval cultural paradigm to contemporary psychological rationality. As an alternative to epistemological rationality, psychological rationality deserves our attention, for it bears within itself the seeds for cultural change.

# IV. THE HISTORY OF PSYCHOLOGICAL RATIONALITY

## 64. The Axial Cultural Paradigm

> The only level on which a vital, meaningful change may take place is the level of spirit.
>
> Henry Miller[1]

The history of psychological rationality did not unfold in a straightforward fashion. Out of primeval human rationality, which was a psychological rationality, evolved epistemological rationality. While the latter has evolved in a linear sequence of cultural paradigms, each one characterized by a set of core cultural presuppositions, psychological rationality has not. It would be very difficult to trace the evolutionary sequence of pyschological rationality from the primeval cultural paradigm to our present day. All I intend to do in this section is to map out the major characteristics of what I deem four different versions of one and the same cultural paradigm; a cultural paradigm which, like the cultural flow paradigm, grew out of the transitional cultural paradigm, but which, in contrast to it, did not come to stand for a proto-scientific and nascent epistemological rationality; rather, it stood for a higher (than the primeval) evolutionary stage of psychological rationality. This cultural paradigm I shall term the axial cultural paradigm.

It is not my intention to lay out the evolutionary connections between the four different versions of the axial cultural

paradigm; what I am interested in is to point out their relevance for all of contemporary humanity with regard to cultural change. For I intend to convince the reader of the important role psychological rationality has played, still plays (even as a recessive phenomenon within techno-economic civilization) and could play as a dialectical counterpart to single-visionary epistemological rationality.

The sequence in which I will discuss the various versions of the axial cultural paradigm is not to be taken as an evolutionary one; rather, it ought to be regarded as a more or less temporal one. The specification "more or less" is meant to indicate that the various versions of the axial cultural paradigm I am about to present are (at times) temporally overlapping.

Let me briefly recall: the primeval cultural paradigm was the first cultural paradigm in, as or via which humanity expressed itself and came to grips with itself. Primeval humanity functioned according to a psychological rationality which was deeply subjective, esthetic and phenomena-creating. Out of the primeval cultural paradigm grew the transitional cultural paradigm during which the experiential continuum of the "civilized" part of humanity was stretched out into the cognitive, i.e., into a more distilled, form-alized, object-ified version of subjective, esthetic and phenomenal reality experience. It was in the transitional cultural paradigm that epistemological rationality started growing to refine itself in the cultural flow paradigm and the subsequent versions of the cultural structure paradigm. The evolution of epistemological rationality

consisted in the refinement of the cognitive side of humanity. But, as I already mentioned, the making of epistemological rationality did not make primeval psychological rationality disappear. During the transitional cultural paradigm esthetic, i.e., phenomenal, reality experience, still played an important role in counterbalancing a maturing cognitive, i.e., formal, reality experience.

In the sixth century B.C. we witness the latter becoming refined in the cultural flow paradigm, while the former evolves into an ethical (moral) paradigm characterized by the rise of prophetic religions.

Not that ethical or moral behavior did not exist during the primeval cultural paradigm. It existed, but, in my view, it was indistinguishably fused with the esthetic, i.e., the psycho-spiritual. With the externalization of subjectivity during the transitional cultural paradigm, i.e., with the externalization of psycho-spirituality into formal, institutionalized religion and myths (see Chapter 52), the civilized selves, fragmented or partial as they were, had given themselves the opportunity to strive after their externalized, ideal and surrogate selves. This was the dawn of ethical consciousness! Phenomenal-subjective-esthetic reality experience needed not anymore to be guided unconsciously and exclusively by culturally assimilated customs and morals, but could now be directed by an individual's <u>conscious</u> choices towards self-perfection and according to formal, institutionalized religions or mythical dogma. An ethical self thus may be regarded as an esthetic

self self-actualizing towards an ideal, perfect self. Ethical conduct is esthetic conduct self-actualizing towards an ideal, perfect self.

According to Mumford, the "axial," i.e., value-oriented, "tendency to picture life itself as a constant battle between the forces of good and evil, between Ahriman and Ormazd, as the followers of Zoroaster put it, goes back to an earlier dawn of ethical consciousness among the Egyptians. With them,the gods, who at first exacted only obedience, in time imposed honesty and justice, mercy and forebearance, in all human relations; and they applied their own cosmic time scale to all petty human operations, rescuing them from that pettiness. To exercise watchful care, not only in the rituals and sacrifices to the gods, but in one's relations to one's fellows, became a mark of civilised man's waxing religious sense."[2]

This constituted an important change in the religious and moral nature of humanity. It prepared the way for the appearance of what Mumford calls "axial religions." And this happened at just about the same time that the cultural flow paradigm came into being, namely more or less during the sixth century B.C. It is in that century that the transitional cultural paradigm, hitherto more or less balancing with the esthetic and the cognitive side within civilized humans, dichotomized clearly into epistemological and psychological rationality. From now on, there will be those humans that will stress the cognitive-objective side within them, and there will be those that will stress the esthetic-subjective side within them.

The latter will constitute, as I already mentioned, the majority of humans in traditional Eastern societies up to the present day, and the majority of Westerners until the rise of techno-economic civilization in the nineteenth and twentieth century.

In the sixth century B.C., in Europe and in Asia, "the earliest universal religions, Buddhism and Zoroastrianism, came forth, while those that appeared later, Christianity, Mithraism, Manichaeism, Islam, continued the transformation begun then. With this a new kind of person and a new kind of community took form."[3] According to Mumford, axial religions redefined and recast the human personality. "In that act, values that emerge only in the personality replace those that belonged to institutions and institutional roles. The new feelings, emotional attachments, sentiments are now incarnated in a living image, that of the prophet. The life that he lives, the values he expresses, become a visible pattern for other men to follow. . . .

"The axial prophet both remakes the concept of God and remints the human image. The personal takes precedence over the social."[4]

Clearly: while the cultural flow paradigm concerned itself, in a protoscientific fashion, with the outer, the objective, axial religions sought to understand the inner, the subjective. It is not the world which must be known, but the person and his/her meaningfulness in that world.

According to Mumford the inner self split itself off from the outer world and social institutions. "So real became the vision

of a single unifying God, omniscient and omnipotent, that the outer world seemed, in comparison, trivial and unimportant. Meaning and value were attached to the inner, the disembodied, the subjective; and such aspects of nature as were manifestly part of another system were the expression of God's will and mind, not [humanity's]." Moreover, this axial innerness was more revelatory than primeval innerness; it helped humans to restore their self-esteem which the power, authority and exploitative practices of civilization had crushed and paralysed. "But if axial religion escaped the fragmentation of the civilised order, it did so only by creating a dualism between 'this world' and the 'other world.'"[5]

While it may have focused its interests on the "other world," axial religion did not concern itself with the "formal world," the subject of investigation of epistemological rationality. The "other world" is an "ideal world" which does not underlie the "phenomenal world"; rather, it is the phenomenal world idealized. Axial humanity's reality experience, thus, may still be regarded as a subjective-esthetic and phenomenal one.

A Moses, a Jesus, a Mahomet and others were prime examples of ethical humans concerned with the overcoming of the encapsulated cultural self (be it esthetic or cognitive). Since I equated the esthetic with the psycho-spiritual, and since, to me, the cognitive is a refined esthetic and since the ideal self is a projected cultural self, I will have to consider the ideal self, towards which the axial human strives, as an externalized psycho-spiritual self.

Psycho-spiritual self-transformation, self-overcoming, self-actualization or self-becoming, then, may be regarded as the cultural self's transformation into a culturally conditioned ideal self.

Axial psycho-spirituality attempts to be holistic at least as far as the human personality is concerned. "The fact is that," according to Mumford, "the axial transformation was not primarily an achievement of the conscious mind, still less a product of rational thought alone: it actually took place at far deeper levels and involved the whole personality."[6]

While they may involve the "whole" personality, axial religions, nevertheless, concerned themselves with that "whole" personality as if it existed in an economic,socio-developmental or ecological vacuum. The ideal self was no ecological self and thus, like the civilized self from and by which it was projected, an incomplete or partial self. Writes Mumford: "Great as the achievements of axial religion were, lasting as their influence remains, they rested in some degree on an illusion. The type of personality they sought to impress on [human]kind as a whole is not, in fact, a universal one. The axial mask did not fit easily over every face. In its overemphasis of the . . . spiritual, the axial personality is a valuable corrective to the extroversion and shallowness of more common types: but it is not, in its isolated perfection, a sufficiently representative ideal of human potentiality, for it rejects too much that is needed for full human growth." Since it is not self-sufficient, the inner life, which became the exclusive and isolated

center of axial attention, is liable to "crumble when submitted to social pressure. If that inner life is, in fact, to last beyond its first moments of intense illumination, it needs an outer life, built in conformity to its perceptions, to sustain and support it."[7]

The exclusive inward orientation of axial humans partially ignored the societal evils which plagued humanity. Moreover, the vitality of genuine personal self-transformation processes became all-too-often thwarted by the routine of institutionalized doctrine.

But notwithstanding their defects, the prophetic or axial religions endured up to the present day. They were complemented by what Mumford calls "axial philosophies." "These philosophies rest on intuitions and proposals similar to those of axial religion: they likewise invoke [humanity's] higher nature and set goals that demand a break with the instinctual, the habitual, the conventional."[8]

Axial philosophies were ethical philosophies, i.e., philosophies concerned with the rightness or wrongness of human action and interaction. With regard to my view that an ethical self may be regarded as an esthetic self self-actualizing towards an ideal, perfect self, we may say that axial or ethical philosophies may be taken to be esthetic philosophies concerned with the rightness or wrongness or, perhaps better, with the <u>quality</u> of human action and interaction when compared with ideal or perfect human action and interaction.

With this in mind axial religions as well as axial philosophies may count as manifestations of psychological rationality. They may be regarded as constituting a cultural paradigm which I shall term the <u>axial cultural paradigm</u>.

The axial cultural paradigm has to be credited with the following: according to Mumford, "the axial religions and philosophies had broadened the basis of human association" in their search for universally human values. "The basic similarities between the values and purposes of the axial ideologies outweigh their differences: they converge toward a common conception of [human] nature and destiny with a kind of unanimity that contrasts with the thousand oddities and solecisms that have characterised more primitive cultures, even after they had achieved the forms of civilisation. In this the axial ideologies carried forward, to a marked degree, an underlying tendency toward diffusion, universalisation, spiritual unity and communion, which has, in time, become an increasingly important sign of human development. The elevated superego [i.e., ideal self] of the axial religions is still a precious contribution to--indeed an indispensable preparation for--an even more effective universalism, one still to emerge."[9]

This ought to indicate that the axial cultural paradigm, still dominant in traditional societies and recessive in techno-economic ones, is of utmost importance for a great part of humanity. It stresses the esthetical and therewith the ethical side in the human over his/her cognitive side.

A word of caution is now in order: in my view, the axial cultural paradigm is an evolutionary stage of psychological rationality, and as such ethical and esthetic. However, many axial philosophies (beginning with the ethical philosophies of Socrates, Plato

and Aristotle) view ethics (and esthetics for that matter), as ultimately cognitive. Mumford who coined the term "axial philosophies" does not make the distinction between axial philosophies which view ethical behavior as ultimately cognitive and which I shall label cognitive axial philosophies, and those that regard moral conduct as ultimately esthetic and which I shall label esthetic axial philosophies. While, according to him, axial philosophies "rest on intuitions and proposals similar to those of axial religion," i.e., while axial philosophies would be, in my view, esthetic, they also emphasize," according to Mumford, "the rational and the humanly controllable . . . the method of intellectual criticism and clarification, orderly knowledge, pedagogical discipline,"[10] i.e., they also would be, in my view, cognitive.

In the following, I shall only deal with esthetic axial philosophies, for it is beyond the scope of this work to argue at length that cognitive axial philosophies (such as, for example, Platonic and Aristotelian ethics or utilitarian ethics) are ultimately esthetic axial philosophies. Suffice it to say that, in accordance with my stance taken in Section II of this Part Two, the cognitive is ultimately a refined, form-alized, object-ified and abstracted esthetic and hence that cognitive axial philosophies are ultimately esthetic axial philosophies.

With this word of caution in mind, let me now stipulate some of the (implicit and explicit) core cultural presuppositions which characterize the Western axial cultural paradigm, as I understand

it. Here they are: (1) the symbolic is detached from the organic (implicit before and explicit after Descartes); (2) the symbol(ic) is detached from the symbolized (implicit before and explicit after Descartes); (3) the psycho-spiritual is real; the formal, if real, is, at best, difficult to know and, at worst, unknowable (explicit); (4) human thought is esthetic (explicit); (5) human thought creates experiential reality or reality experience which is phenomenal and which at times can be formal (implicit) and which ought to (strive to) be ideal (explicit); (6) the creation of experiential reality or reality experience is an esthetic act (implicit); (7) the cultural, i.e., symbolic, self is esthetic and partial (implicit); (8) phenomenal (experiential) reality is many ways (explicit); (9) phenomenal (experiential) reality is psycho-spiritual (explicit); (10) psycho-spiritual reality is purposive; purposiveness is ethical (explicit); (11) phenomenal (experiential) reality cannot be reduced to ultimate (formal) reality (explicit); (12) phenomenal (experiential) reality cannot be quantified; it can only be qualified (explicit); (13) phenomenal (experiential) reality is directly experienced (explicit); (14) there is no limitation to the esthetic expansion of phenomenal reality experience (explicit); and (15) the phenomenal (the psycho-spiritual) is nonexploitable and non-controllable.

Two remarks: first, with regard to core cultural presupposition (12), the phenomenon "green" cannot be quantified; to describe it in the physical and quantitative terms of light-wavelength is to <u>quantify</u> (and not qualify) a <u>formal</u> reality. Second, core cultural

presupposition (15) indicates that humans are ultimately (metaphysically) free.

Among the many Western axial philosophies, each with its own ethical presuppositions and standards, theories of the universe and doctrines as to humanity's essential nature, there are, then, four which, for me, are (esthetic) versions of the axial cultural paradigm. In the following I wish to more or less briefly sketch these versions of the Western axial cultural paradigm which I deem to equally share the core cultural presuppositions just listed.

Let me begin with the Sophist version of the axial cultural paradigm.

## 65. The Sophist's Quest for Excellence

> Quality! Virtue! Dharma! That is what the Sophists were teaching! Not ethical relativism. Not pristine "virtue." But aretê. Excellence. Dharma!
>
> Robert M. Pirsig[11]

While the Milesian philosophers, the Pythagoreans, Heraclitus, and the Eleatic school assumed a protoscientific outlook on the world, the majority of the Greek people may be regarded to still have lived in a religious and mythical world. This is the world of the phycho-spiritual, the world of psychological rationality. During the days of Socrates, Plato and Aristotle there emerged strong proponents of psychological rationality. Although they were not mythically or religiously inclined, they were of a romantic-esthetic

bent of mind. Although they mastered reasoning processes with great ease, they appealed to the emotions; proficient in logic, they favored rhetoric. While Socrates, Plato and Aristotle argued that the good is what is true, they contended that the true is what is good. While the former had shifted the cultural structure paradigm towards anthropocentric concerns with absolute truth as a frame of reference, the latter had shifted romantic-esthetic rationality towards a similar anthropocentrism but on the basis of their skepticism and relativistic epistomology. Man is the measure of all things, they claimed. They were the Sophists. Protagoras and Gorgias were the most well-known sophists of the Socratic-Platonic era.

The reason why I briefly focus on the Sophists is because they are the best example of axial or ethical philosophy being ultimately esthetical.

The Sophists were the protagonists of the relativity of truth. Since, according to them, there was no absolute right or absolute wrong, they focused their attention, not on absolute truth, but on the quality of human action and interaction.

For Plato, the good was, according to Pirsig, "the highest form, the highest Idea of all. It was subordinate only to Truth itself . . . Plato's Good was a fixed and eternal and unmoving Idea, whereas for the [Sophists] it was not an Idea at all. The Good was not a <u>form</u> of reality. It was reality itself, ever changing, ultimately unknowable in any kind of fixed, rigid way."[12] Here we have it: the good was not a matter of the cognitive, it was not a

matter of formal reality experience, it was not a matter of the objective. If we view cognitive, objective or formal reality experience as diametrically opposed to esthetic, subjective or phenomenal reality experience (which in my view, however, is not the case), then the good would have to be a matter of subjective, esthetic or phenomenal reality experience. And this is what the Sophists were concerned about: the good in the subjective, the esthetic, the phenomenal. And this is why I regard the Sophists as proponents of romantic-esthetic rationality.

According to Pirsig[13] the Sophists taught aretê, which, according to Kitto means "excellence." For Kitto aretê is "another typically Greek word. When we meet it in Plato we translate it 'Virtue' and consequently miss all the flavour of it. 'Virtue,' at least in modern English, is almost entirely a moral word; aretê on the other hand is used indifferently in all the categories and means simply 'excellence.' It may be limited of course by its context; the aretê of a race-horse is speed, of a cart-horse strength. If it is used, in a general context, of a [human] it will connote excellence in the ways in which a man can be excellent--morally, intellectually, physically, practically."[14]

Excellence in this sense, however, is not a matter of quantity or of underlying form. It is primarily esthetic, although it may have its theory, too. And this description of excellence fits exactly the meaning I had adopted earlier for psychological rationality.

In Part Four of this work I shall come back in more detail to the notions of the good (or, as I shall say later, "quality") and excellence.

Let me now turn to another esthetic axial philosophy which, because of its affinity with Sophist philosophy, is of a special interest to us: skeptic philosophy.

## 66. The Skeptic Suspension of Judgment

> That a thing is sweet, I do not affirm, only admit that it appears so.
>
> Timon[15]

The Sophists were epistemological relativists and skeptics, but usually are not counted as belonging to the Skeptic school of philosophy which was founded by Pyrrho in the fourth century B.C. and which had its most famous proponent in Sextus Empiricus who lived around 200 A.D.

Like the Sophists the Skeptics were of a romantic-esthetic bent of mind; they did not deny the fact of sense experience, but doubted any account given of it. "Accordingly," writes Stumpf, "the Skeptics were led to suspend judgment and to refrain from denying or affirming anything. From this suspension of judgment they hoped to achieve an undisturbed and calm mental state."[16] Creative doubt was their means to mental and emotional poise. Since, according to them this could not be accomplished through an inquiry into the underlying forms of phenomenal experiential reality, they were, of necessity, focusing on the subjective, the esthetic, the phenomenal; an attitude

most aptly expressed by Sextus Empiricus when he said of himself and the Skeptics that "we follow a line of reasoning which . . . points us to a life conformable to . . . our own instinctive feelings."[17]

The kind of reasoning advocated by Sextus Empiricus may be regarded as psychological rationality. The skeptic version of romantic-esthetic rationality was based on the theory of "epoché," i.e., of the suspension of judgment, which is a theory of appearances of phenomenal reality experience.

Albeit they saw their hey day in pre-medieval classic philosophy, Sophism and Skepticism have kept living on up to the present day as secular manifestations of psychological rationality, as two versions of the axial cultural paradigm.

Let me now turn to the medieval period of Western humanity's evolution, a period which I had already hinted at as being balanced between psychological rationality and epistemological rationality.

## 67. The Experiential Balance of Monastic Life

### Ora et Labora[18]

Starting in the sixth century B.C. and with the transitional cultural paradigm becoming dichotomized into an epistemological rationality and a psychological rationality, a part of humanity may be said to have emphasized its cognitive side, i.e., to have experienced a gradually refined formal reality, while a part of humanity may be said to have emphasized its esthetic side, i.e., to have

experienced a gradually refined phenomenal reality. While we cannot say whether there have been many humans which struck a balance between the two rationalities, there is some evidence that the medieval monastic scholars achieved such an equilibrium.

Starting with St. Augustine and ending with St. Thomas Aquinas, epistemological rationality subsisted for approximately 1,000 years suffused (mainly as Neo-Platonism and Aristotelianism) throughout medieval philosophy and theology. Albeit greatly inspirational and intuitive, medieval philosophy and theology were much too concerned with ontological arguments, proofs for God's existence, and natural and divine law (logos), and hence with underlying forms, to be counted as incorporating "pure" psychological rationality. Let me, therefore, view the medieval period as a millennial time-span in which, as far as the monastic scholars are concerned, both psychological and epistemological rationality balanced with each other in human individuals.

Medieval monastic life was stable: it developed its cognitive side, resulting in an ecologically sound and humanly comprehensible polytechnics,as well as its psycho-spiritual side through self-imposed physical and spiritual discipline. While they led an ordered, disciplined or "formal" life, monastic scholars probed into the vagaries of psycho-spiritual phenomena. In short, the experiential continuum for monastic scholars may be regarded as having "flowed" hither-thither between the subjective and the objective, the phenomenal and the formal, the esthetic and the cognitive, between

epistemological rationality and psychological rationality, between the telo-scientific cultural structure paradigm and the axial cultural paradigm.

This equilibrated reality experience of monastic scholars will serve me as exemplary when I will come to discuss the means for cultural change in Part Three.

Let me now turn to some post-medieval versions of the axial cultural paradigm.

## 68. The Existentialist Predicament

Existence precedes essence.
Jean-Paul Sartre[19]

Just as much as there arose in pre-medieval times two strong versions of the axial cultural paradigm (the Sophists and the Skeptics), so there emerged, in the post-medieval era two strong proponents of the same psychological rationality, which was gradually becoming less dominant and finally recessive with the coming about of techno-economic civilization in the nineteenth and twentieth century.

Before I trace very summarily the history of existentialism, let me stress that I am mainly interested in detecting its romantic-esthetic flavor.

I shall, now, return to Barretts' distinction between the Hebraist and the Hellenist side of human nature. He made that distinction to show that contemporary existentialism grew out of the

Hebraist tradition whereas logical positivism and analytical philosophy had their roots in the Hellenist tradition. The Hellenist tradition may be viewed as equivalent to epistemological rationality; the Hebraist tradition to psychological rationality.

Let me briefly review Barrett's characterization of both the Hellenist and Hebraist mentality so that we may better understand the roots of existentialism.

First, the Hebraic human is a human of faith; the Hellenic human is a human of reason. Second, Hebraism deals with concrete, particular, individual humans in their wholeness; Hellenism deals with universal, abstract and timeless essences, form, and Ideas, which lie beyond humans. Third, Hellenism idealizes detachment; Hebraism embraces the passionate commitment of an individual to his/her existence. Fourth, for the Hebraic human eternity is a "shadowy concept"; for the Hellenic human it can be grasped intellectually. Fifth, Hellenism is logical; for Hebraism "intellect and logic are the pride of fools and do not touch the ultimate issues of life." Sixth, Hellenism pursues beauty and goodness as being identical; Hebraism finds it difficult to view them as identical.[20] According to Barrett, Hebraic knowledge "is not the intellectual knowledge of the Greek. It is not the kind of knowledge that [humans] can have through reason at all; [they have] it rather through body and blood, bones and bowels, through trust and anger and confusion and love and fear; through [their] passionate adhesion in faith to the Being whom [they] can never intellectually know." These features of Hebraic

humans, i.e., their psychological rationality, is what "existential philosophy has attempted to exhume and bring to the reflective consciousness of our time, a time in which as a matter of historical happening the Hebraic religion (which means Western religion) no longer retains its unconditional validity for the mass of [human]-kind."[21]

It would be difficult to place an origin to existentialist thought. The essence-existence question was a matter of debate during the Middle Ages; St. Augustine and St. Thomas Aquinas may be viewed as forerunners of existentialism. So also may Luther who, according to Stumpf, saw epistemological rationality as "that all-cruelest and most fatal enemy of God." He even went so far as to call reason "la puta," i.e., the whore.[22]

In the sixteenth century, Montaigne stood up for psychological rationality. He was a Renaissance sophist and skeptic; sophist in the sense that his chief concern was excellence and "a desire to live a thoroughly exemplary human life,"[23] skeptic in the sense that he sought tranquillity of mind by not going beyond ordinary experiences, i.e., by accepting phenomenal reality as it is.

The seventeenth century, in which the mechano-scientific cultural structure paradigm came into being, marked also the shift from "precursory existentialism" to existentialism. Writes Barrett: "Before even the possibility of modern Existentialism could be created it was necessary to create its world, and this could have come about only through science, which suddenly projected [humanity] out of the Middle Ages. So when we come to Pascal (1623-1662),

himself a great scientist, we are no longer dealing, as in the case of St. Augustine, with a precursor of Existentialism. Pascal is an existentialist."[24]

As a scientist Pascal contributed important mathematical discoveries to the mechano-scientific cultural structure paradigm; to his romantic-esthetic side goes the credit for "his famous distinction between the mathematical and the intuitive mind--l'esprit de geometrie and l'esprit de finesse. It would not be too much of an exaggeration to say that the whole of Bergson's philosophy is virtually contained in the few pages that Pascal dedicates to this fundamental distinction."[25]

At the turn of the eighteenth century and during the nineteenth century, the romantics, whom we shall treat separately below, were the outstanding proponents of psychological rationality. Together with the nineteenth century Russians, Tolstoy and Dostoevski, they may be viewed as of an existentialist bent of mind. For Dostoevski, according to Barrett, a human was perhaps "not the rational but the demoniacal animal. A rationalist who loses sight of the demoniacal cannot understand human beings."[26]

If "Dostoevski is the novelist of the abnormal and the morbid, of the convulsions of the human spirit at its heights and in its depths, Tolstoy is by contrast the supreme portrayer of the normal and the organic." Tolstoy's quest for truth doesn't follow the scheme set by classic-theoretic rationality. On the contrary, "the truth he is after is not what he knows merely by the intellect but what he knows with his whole being."[27]

In the nineteenth century emerge two great figures of existentialism: Nietzsche and Kierkegaard.

Kierkegaard opposed the intellectual detachment of epistemological rationality; this detachment allows for highly impersonal knowledge, but cannot encompass an individual's existential meaning. Like Tolstoy, he sought a truth that is of the whole person; such a truth he called subjective, and, according to him, "strictly speaking, subjective truth is not a truth that I <u>have</u>, but a truth that I <u>am</u>."[28]

Nietzsche used a different terminology to portray the contrast between psychological rationality and epistemological rationality. The former, in Nietzsche's terms, would be the Dionysian, the latter the Apollonian. Frenzy, abandonment, and the passions are the mark of Dionysian experiential reality whereas the Apollonian relies on order, restraint and form. Both are necessary and have to be harmonized for the coming about of the Superman. Writes Stumpf: "To deny, as nineteenth-century culture seemed to do, that the Dionysian element had a rightful place in life was to postpone, as Nietzsche saw, to some later date the inevitable explosion of vital forces, which cannot be permanently denied expression. To ask whether life should dominate knowledge or knowledge dominate life is to provoke the question which of these two is the higher and more decisive power. There is no doubt, said Nietzsche, that life is the higher and dominating power, but raw vital power is finally life-defeating."[29]

Nietzsche, although not anti-rational, nevertheless was forced to stress the romantic-esthetic, i.e., Dionysian, in a culture the cultural structure paradigm of which had brought about industrialism which was well on its way towards early forms of technocracy. "Even at the end, Nietzsche believed that knowledge and rationality must be used in the service of life and that life must not be sacrificed for knowledge. . . . Here, then, was Nietzsche's ideal, the passionate man who has his passions under control."[30]

At the end of the nineteenth century pragmatism arose as an original American contribution to the history of thought. If pragmatism is associated with James rather than with Pierce or Dewey, then it may deserve to be termed existentialist and romantic-esthetic, for, according to Barrett, "James's vituperation of rationalism is so passionate that latter-day Pragmatists see their own residual rationalism of scientific method thereby put in question. And it is not merely a matter of tone, but of principle, that places James among the Existentialists: he plumped for a world which contained contingency, discontinutiy, and in which the centers of experience were irreducibly plural and personal, as against a "block" universe that could be enclosed in a single rational system."[31] James's pragmatism prepared the way to the pluralistic approach to knowledge which has become crucial in contemporary countercultural thought.

Enters the twentieth century and with it two distinguished flow-philosophers: Whitehead and Bergson.

Whereas Whitehead may be seen as expressing epistemological rationality, Bergson, albeit not anti-rational, is clearly a proponent of the intuitive. Science, according to him, is analytic and metaphysics intuitive. Writes Stumpf: "In every case, says Bergson, the analytic intellect learns, ironically, by destroying the object's essence. Its essence is its dynamic, thriving, pulsing, living, continuing existence--its duration. Analysis, however, interrupts this essential duration; it stops life and movement; it separates into several independent and static parts what in true life is a unified, organic, and dynamic reality."[32]

Bergson's influence on the development of existentialism is paramount. Epistemological rationality's competence is utterly useless to deal with the richness of our daily existence, so he thought. According to Barrett, "he was the first to insist on the insufficiency of the abstract intelligence to grasp the richness of experience, on the urgent and irreducible reality of time, and--perhaps in the long run the most significant insight of all--on the inner depth of the psychic life which cannot be measured by the quantitative methods of the physical sciences; and for making all of these points the Existentialists stand greatly in his debt."[33]

As we come to contemporary existentialism, four philosophers are most notable: Jaspers, Marcel, Heidegger and Sartre. The two former based their existentialism on religion.

For Jaspers, according to Stumpf, "to think scientifically . . . is to have access to only one kind of data, namely, objective

data. But the content of Being, total reality, Existence, is not limited to objective data. The self, the individual, the whole complex of the subject--all this subjectivity is part of Existence. And nowhere is the limitation of science more apparent than when it tries to study [the human] individual. . . .

"Jaspers believes that the task of philosophy is to deal with Existence, whose subject matter is based upon the existential thinker's immediate inner and personal experience."[34]

Marcel, strongly influenced by Bergson, found that the "I" is a "mystery" and hence cannot be studied objectively like what he calls a "problem." "A problem usually revolves around an object or a relationship between objects. Information regarding objects and their relationships can be gathered and calculated. But the question 'What am I?' cannot be reduced to a problem, because the I is not an object, an it . . . because the subjective part of myself can never be eliminated, I cannot be reduced to a mere object, and therefore the question about my existence is not merely a problem: it is a mystery."[35]

Heidegger's preoccupation with Being does not identify him as a proponent of epistemological rationality. On the contrary, for him Being is not remote and abstract, but close and concrete; it is "something in which all of us are immersed up to our necks, and indeed over our heads. . . . Our ordinary human life moves within a preconceptual understanding of Being."[36]

Heidegger staunchly opposed his notion of a "thinking rooted in Being" to reason, i.e., epistemological rationality, i.e., that

which is bound to things or objects and not to their Being, when he wrote that "thinking only begins at the point where we have come to know that Reason, glorified for centuries, is the most obstinate adversary of thinking."[37]

That an existentialist need not necessarily philosophize in terms of psychological rationality is exemplified in Sartre. Although he reversed the traditional metaphysical assumption that essence precedes existence, which had been implicit in classic-theoretic rationality ever since Plato, by stating that "existence precedes essence," he nevertheless is classic-theoretic in his Cartesian For-itself (consciouness) and In-itself (world) dualism. He is, according to Barrett, "the one existential philosopher who does not deal with the prime question that has been the central passion of nearly all the Existentialists--the question, namely, of a truth for [humans] that is more than a truth of the intellect."[38]

This, then, was a brief sketch of the contribution of some existential figures to the axial cultural paradigm. While I did not expound on its ethical premises, they nevertheless may be regarded as being esthetically rather than cognitively oriented, for existentialism's most influential thinkers (with the exception of Sartre) were proponents of a psychological rationality concerned about the quality of human existence within a mainstream structure culture. The mechano- and techno-scientific cultural structure paradigms with their thrust toward objectivity, materiality and formality had no room for the intuitive, the esthetic, the spiritual, the phenomenal,

human needs and aspirations. It was this cold-bloodedness that existentialism attempted and still attempts to thaw. Existential thought was and still is a cry into the technological desert, a desperate plea for human dignity and freedom.

But existentialism was not alone in its struggle to resist a classic-theoretic rationality which went technocratic. There was also a special psycho-spiritual breed of humans: the Romantics.

## 69. The Romantic Soul

> We have not the courage to risk the folly of strong feeling, much less the innocence.
> Theodore Roszak[39]

> Imagination was the imperiled quality of mind the Romantic undertook to defend.
> Theodore Roszak[40]

About two hundred years ago, the romantic movement emerged as another major proponent of psychological rationality. I briefly mentioned the romantics in my treatment of existentialist thought and shall now have a closer look at their psychological rationality. Writes Barrett: "However we choose to characterize Romanticism--as a protest of the individual against the universal laws of classicism, or as the protest of feeling against reason, or again as the protest on behalf of nature against the encroachments of an industrial society--what is clear is that it is, in every case, a drive toward that fullness and naturalness of Being that the modern world threatens to let sink into oblivion."[41]

A return to Homeric Greece and the primeval cultural paradigm, the craving for wholeness, enthusiasm, imagination, fantasy and dreams, visionary power and illumination; those were the landmarks of the romantic movement which according to Roszak struggled "to save the reality of experience from evaporating into theoretical abstraction or disintegrating into the chaos of bare, empirical fact."[42] Not that the romantics were anti-rational; they viewed reason as only a part of the whole person.

Blake, for example, envisioned, according to Barrett, "The Marriage of Heaven and Hell," the marriage of reason and impulse as opening unimaginable possibilities for humans.[43] Blake was, in his own terms, "melting apparent surfaces away, and displaying the infinite which was hid,"[44] but this did not make him a classic-theoretic mind. On the contrary, he adopted, according to Roszak, the non-scientific method of "painters and poets who really look at the world--and look at it, and look at it, until they lovingly gaze it into their art; no explaining, no theorizing, no generalizing, no analyzing . . . only the pure pleasure of seeing (or hearing, or smelling, or feeling)."[45]

Wordsworth is the poet of the sense-life who recognized the limits of language to express experience. He celebrates "perception unburdened by language and its empiricidal abstractions."[46]

His anti-reductionism is perhaps best expressed in his verses:

> Our meddling intellect
> Misshapes the beauteous forms of things:
> We murder to dissect.[47]

Coleridge, too, in some of his better known poetry exhibits chiefly, according to Barrett, "the 'romance' aspect of Romanticism, the freedom of the imagination to find its materials outside the stringent categories of neoclassicism."[48]

Goethe's intellectual Faust makes his pact with impulsive Mephistopheles "and from a withered old scholar is transformed into a radiant and handsome youth. It is the same solution to the problem of human energy that Blake preached: the marriage of hell and heaven, the pact with one's own devil; or, in Nietzsche's terms, the marriage of one's good and evil in order to arrive at the point that is beyond good and evil because it is the source of them both--the Self in its craving to live and grow."[49]

German romanticism may be best epitomized in Goethe's disenchantment with epistemological rationality. If, according to Goethe, "gray is all theory, green is life's glowing tree,"[50] and if life and nature have to be salvaged from the structuring, quantifying and reductionist claws of mechano- and techno-science, then Goethe's "Naturphilosophie" offers a viable alternative to an understanding of the universe.

In Roszak's view Goethe's natural philosophy encompasses three related aspects: (1) contemplative non-intervention, (2) the primacy of the qualitative and (3) organic dialectics.

Contemplative non-intervention or "passive attentiveness" are to replace domineering analysis. "Nature (he knew) invites and rewards curiosity, but not aggressive probing. The trick is to get

into the swing, the flow of the phenomena . . . gradually, patiently, receptively."[51]

Sense qualities are not secondary, they are primary; they are what Goethe called "the true illusion," and if "qualities can be reduced to quantifiable causes . . . then they are no longer qualities,"[52] but abstracted, deduced causes.

Organic dialectics is the dynamics of polarity and synthesis, "the energy behind all formative tendency: the divine rhythm . . . [a] polarity moving toward an 'intensified' union of opposites: a 'higher third.'"[53]

Baudelaire and Rimbaud were the outstanding figures of nineteenth century French romanticism.

Baudelaire's revolt was, in Barrett's terms, "not only a social revolt against the materialism of bourgeois society, but a metaphysical revolt against the kind of world created by the posiivism and scientism of the present age."[54]

Rimbaud, not only revolted against epistemological rationality, but actively tried to re-enliven the primeval cultural paradigm. Indeed, he was "among the first of the creative artists to announce primitivism as one of the goals of his art and of his live . . . to get back to the primitive--which is to say, primary—sources of Being and vision."[55]

This, then, was my survey of the most outstanding proponents of eighteenth and nineteenth century romanticism.

To be sure, there have been innumerable romantics before and after the prime time of the romantic movement. The reason I have

focused on these writers, though, was because they were the most outspoken individuals during a time in which their outspokenness also shaped the romantic movement's most coherent stand against epistemological rationality.

I have now arrived at the close of my sketchy historical survey of what I deem four important versions of the axial cultural paradigm.

As I mentioned in the beginning of this section, it is my intention to convince the reader of the important role psychological rationality has played, still plays and could play as a dialectical counterpart to epistemological rationality. I shall, therefore, recapitulate briefly, during the subsequent intermezzo, some of the major traits of the four versions of the axial cultural paradigm just discussed and contrast them to the major traits of classic-theoretic rationality as outlined in Section II. I shall do this in order to point to the need for cultural change.

# INTERMEZZO

## INTERMEZZO

### 70. Why There Is a Need for Cultural Change

> The equilibrium we seek is a dynamic one and the balance we promote is not an end in itself, but a means to further growth.
>
> Lewis Mumford[1]

When I surveyed what there is as to the economic, socio-developmental, ecological and human psycho-behavioral indicators, I came to find so many negative aspects of humanity's present cultural existence that, in order not to lose hope for the human species and in order to open new promising vistas for human cultural evolution, I contrasted them with what there could be as to the same indicators. Inadvertence, I maintained, is the major reason for the coming about, the lasting and the worsening of our contemporary problematic situation. And that is why I felt the need to expound on what there is and what there could be, for it is a vain undertaking to solve a problem which one is not aware of.

We came to see that the Western part of humanity lives basically a megacivic life within a techno-economic industrial state, which runs in line with the planning and the producer sovereignity of the technostructures of multi-national corporations. Techno-economic civilization, production-, efficiency- and quantity-oriented as it is, and geared as it is to the demands of the technocracy

itself, has brought about more effluence than affluence. It thrives upon an allegedly value-neutral and methodological science and a purportedly value-neutral, highly centralized, capital- and energy-intensive style of technology. Together with the unions, the educational mega-institutions, the state government and the scientific as well as military establishment, the technostructure becomes an anonymous apparatus which suavely or bluntly enslaves not only its megacitizens but also and gradually the members of traditional societies. Within the grip of techno-economic imperialism, humans become demoted from culturally and ecologically well-integrated persons living in ecocommunities to culturally and spiritually rootless and reckless individualized non-entities competing for delusive symbolic success within a homicidal and ecocidal sprawling conglomerate of ecologically disruptive megacities. Non-industrial nations, vulnerable as they are, succumb easily to the lure of more and the manipulations of the techno-imperialist.

A self-defeating techno-agriculture, synthetic food, population pollution, human isolation, loneliness and alienation: such are some of the traits of a techno-economic sociosystem on the verge of collapse.

How could all this come about? I argued that what was at fault was nothing less than human thought in one of the two versions I recognized: epistemological rationality. The latter has its roots in psychological rationality, the other version, which, in its primeval form, constituted the primeval cultural paradigm. Classic-theoretic rationality started crystallizing itself out of

romantic-esthetic rationality during the transitional cultural paradigm, then, split off during the sixth century B.C. Subsequently, it evolved, in linear sequence, through four versions: the cultural flow paradigm, the telo-scientific, mechano-scientific and finally the techno-scientific cultural structure paradigms.

During this evolution classic-theoretic rationality firmly and narrow-mindedly established itself as a detached mode of experiencing the underlying forms of phenomenal reality. It deemed itself cognitive and objective with no connection whatsoever with esthetic and subjective reality experiences. In its Cartesian detachment it encapsulated its realms of inquiry within Galilean abstractions, Baconian operational truth and logico-empiricist methodology. What was ignored, suppressed or relegated to the irrelevant was the subjective, the esthetic, the personal. Yet, this was precisely what classic-theoretic rationality grew out of; what it was a refinement, a distillation, an abstraction, an object-ification and form-alization of. Disregarding this evolutionary fact, epistemological rationality deluded itself into its own fragmentation and incompleteness. Perfect and ideal as it deemed itself and partial and defective as it actually was, it could but engender, to its own amazement and incomprehension, the techno-economic megalomania, the socio-developmental genocide, the ecological blundering and the psycho-behavioral frigidity and frivolity of contemporary "civilized" humanity. And thus the misdeed had been done.

But, there is hope; hope that the proponents of epistemological rationality will come to realize that they are only stressing

one side in themselves, that there is also another side, and that both sides are not diametrically opposed to each other, but that they are evolutionarily linked with each other.

Indeed, what the protagonists of epistemological rationality do is to stress the cognitive at the expense of the esthetic, the objective at the expense of the subjective, the formal at the expense of the phenomenal. They are, in fact, biased in favor of an objective, cognitive or formal reality experience and against a subjective, esthetic or phenomenal reality experience.

In order to redress this bias, we must get the techno-scientific mind to pay heed to romantic-esthetic rationality. This we can do, first, by attracting his/her attention to what there could be in comparison to what there is; second, we can suggest why there could be what there could be by pointing to the evolution of romantic-esthetic rationality, its potential as dialectical counterpart to his/her classic-theoretic rationality and its importance for bringing about what there could be.

If the evolution of epistemological rationality has led to the deplorable state of affairs of contemporary techno-economic civilization and megacivic life, then we might justly ask ourselves whether we would have been spared from the present threat of our demise, if psychological rationality, instead of becoming recessive over the last two centuries, had remained dominant. While we cannot be sure of the answer, we certainly can admit that twentieth century humanity would have a different look from the one it actually has,

had there not been this definite split between epistemological and psychological rationality in the sixth century B.C.

Had the protagonists of the cognitive, objective or formal reality experience viewed that reality experience as what it was, is and always will be, namely a refined, distilled, form-alized, object-ified and abstract but nevertheless ultimately esthetic, subjective or phenomenal reality experience; in other words, had they realized that both types of reality experience are but two different emphases on one and the same experiential continuum, they could never have evolved this unilateral, single-visionary and defective bias in favor of the cognitive-objective-formal side of human thought. The mechano-scientific and techno-scientific cultural structure paradigms could not have come about.

This we must point out to epistemologically-oriented individuals. They must come to realize the importance of psychological rationality and the dialectical role it can play, now, towards the coming about of what there could be. For, as we have come to notice, the evolution of the axial cultural paradigm stresses, in its four major versions, the subjective, the esthetic, the psycho-spiritual, the intuitive, the phenomenal and the qualitative, all of which were disregarded during the evolution of epistemological rationality and are still ignored, suppressed or relegated to the irrelevant by the contemporary techno-scientific cultural structure paradigm. Yet, without romantic-esthetic rationality as a dialectical counterpart to classic-theoretic rationality, the one-sided bias of

the latter cannot be redressed. Thus, while the history of epistemological rationality had to be taken as an explanation for what there is, the history of psychological rationality ought to be taken, not as explanation, but as a step in justifying prospective cultural changes.

The Skeptic's cautious epoché, the Sophist's emphasis on quality over logic, Blake's vision of the "Marriage of Heaven and Hell," Wordsworth's anti-reductionism, Goethe's organic dialectics, Rimbaud's craving for the primeval, Tolstoy's "knowledge with one's whole being," similar to Kierkegaard's "being the truth," Bergson's favoring intuition over analysis, Marcel's "mystery," Heidegger's view of subjective life as pre-conceptual, Roszak's personalism and Mumford's organic humanism: all these are but a few indications that there were and are great human minds that did not and do not unconditionally suscribe to epistemological rationality, but that did and do regard psychological rationality as at least as important, if not more important, a mode of reality experience.

Moreover, traditional societies, as far as they still have been spared by techno-economic imperialism, function overwhelmingly in terms of psychological rationality; and they function well. The poverty, famine, disease and general decrepitude we observe in what we often self-complacently term undeveloped or developing countries is not caused, as we have seen before (Chapter 17), by their cultural adherence to psychological rationality, but by the reckless and manipulative encroachment of a techno-economic imperialism insensitive to native existence rationalities.

A different kind of economic system, socio-developmental evolution, ecological and psychological behavior could have come about and could still come about, if both types of rationality, both modes of reality experience were not at odds with each other; if both the subjective-esthetic-phenomenal frames of mind and the objective-cognitive-formal frames of mind realized that they are stressing only one of two sides of an experiential continuum which are evolutionarily and inseparably linked with each other.

In the absence of mutual understanding and mutual respect both kinds of people will not overcome the artificial and imaginary dichotomy between epistemological rationality and psychological rationality. The search for human dignity, happiness, wholeness, freedom and quality of life cannot rest exclusively in the hands of epistemological rationality; for the latter may be usurped by those whose political and economic motives appropriate "objectivity" to their own advantage and against the values, needs and aspirations of personhood or community. Moreover, if the search for truth is in part an objective and cognitive enterprise, it is also a subjective and esthetic undertaking. There is always a personal touch to every experiential reality. That is why there is a need for techno-economic citizens to come to grips with romantic-esthetic rationality and its inseparable linkage with epistemological rationality. If they do succeed they will have opened the way toward crucial changes in their economic, socio-developmental, ecological and psychological behavior.

The contemporary struggle for cultural change must be the struggle to promote psychological rationality to its rightful place as a dialectical counterpart to epistemological rationality, i.e., to encourage a balance between the two. The techno-economic civilization we are living in is founded on the delusive dichotomies between the cognitive and the esthetic, the objective and the subjective, the formal and the phenomenal. It is our utter disregard of the evolutionary and inseparable linkage of these two sides of one and the same experiential continuum which makes a cultural change of Western techno-economic civilization so indispensable.

Now that we have come to realize the need for cultural change, I will focus our attention upon the basis and means for cultural change. To do this I shall now turn to Part Three.

# PART THREE

# THE BASIS AND MEANS FOR CULTURAL CHANGE

# I. INTRODUCTION

## 71. Exploring the Basis and Means for Cultural Change

> The problem at hand confronts us with a familiar, but much misunderstood, dichotomy: the opposition of reason and passion, intellect and feeling, the head and the heart.
>
> Theodore Roszak[1]

In the preceding Parts One and Two I threw light upon what there is as to an economic, socio-developmental, ecological and psycho-behavioral indicator and explained it in terms of the history of what I termed epistemological or classic-theoretic rationality or the epistemological. I contrasted what there is with what there could be (with respect to the same indicators) and supported the prospect of change with a sketchy history of what I labelled psychological or esthetic rationality or the psychological. I ended my review of what there is, of what there could be and of their historical connections with the conclusion that the dichotomy between the epistemological and the psychological is delusive, and that the now recessive psychological must be restored as a dialectical counterpart to the now dominant epistemological.

The following is predicated upon the assumption that both dominant and recessive contemporary cultural paradigms are defective in some way, and that, in order to successfully instigate a much

needed cultural change we ought to consolidate a conceptual basis upon which we can safely rely when we attempt to develop the means for cultural change. This Part Three, then, deals with the basis and means for cultural change.

In Section II we will attempt to become clearly aware of the myth of detachment. First, I shall expose the illusion of detachment to the light of the philosophy of quantum physics. Then, I shall discuss the limits and defects of both an allegedly "pure" epistemological and a purportedly "pure" psychological. I shall reject the notion of the value-neutrality of science and unravel the esthetic/ethical assumptions inherent in the psychic style of doing methodological science. I shall conclude that section with the realization that the epistemological and the psychological are inadequate to account for each other, i.e., that science cannot account for ethics/aesthetics and vice versa.

In Section III I shall argue that, in order to come to grips with what I will term the "integrated wholeness of human experience," we need to develop a psycho-epistemology which can transcend our experiential split towards an experiential one by integrating a "revised" techno-scientific cultural structure paradigm and a "revised" axial cultural paradigm into what I will label the "transcendental-involved ecocultural paradigm." We will find that the development of a psycho-epistemology of reality experience requires not only an awareness of the conditions of adequacy for the integration of a revised psychology with a revised epistemology,

but also a close-up view of the relationship between language, thought, culture and reality experience. This will lead me to focus on that relationship and I shall argue that the synthesis of both a revised psychological rationality and a revised epistemological rationality will constitute the basis for cultural change. Such a synthesis, so I will maintain, must ultimately take place within human individuals' experiential reality or reality experience whence it must be brought to bear upon their culture in order to effect genuine cultural change, i.e., a true cultural revolution. In other words, a true cultural revolution necessitates a true personal transformation in a culture's members.

With this sketchy preview of Part Three in mind, let us now turn our attention to what is wrong with the techno-scientific cultural structure paradigm.

## II. EXPOSING THE MYTH OF DETACHMENT

### 72. Quantum Physical Involvement

> One has to cross out that old word "observer" and put in its place the new word "participator." In some strange sense, the universe is a participatory universe.
>
> John Wheeler[1]

> What we observe is not nature itself, but nature exposed to our method of questioning.
>
> Werner Heisenberg[2]

In the previous Parts One and Two we have come to realize, in very general terms, that we are deluding ourselves when we believe that the psychological is or can be detached from the epistemological. In this and the next two chapters, I intend to clarify the myth of detachment for, to be clearly aware of it is a necessary step to divest ourselves of it. Let me now revisit that myth in the light of the philosophy of quantum physics.

I am out to expose as mistaken a core cultural presupposition which, implicitly or explicitly, was an integral part of all the cultural paradigms I discussed, the primeval cultural paradigm excepted. I speak of the core cultural presupposition that the symbol(ic) is detached from the symbolized. Let me concentrate on the key-term "detachment"; for, technocracy is based on what it takes to

be a morally value-neutral method of science and this method is assumed to be independent from the subject matter it is applied to, which, precisely, it is not.

According to the philosophy of quantum physics, the machine theory of the universe is incorrect. The machine theory holds that "out there" is an objective, independent and determinable universe, which can be "objectively" and "truly" understood by humans, provided that the latter "stay out of it," i.e., remain detached. The philosopy of quantum mechanics claims that this view is mistaken, that the scientist can never be detached but has always to be immersed in creating "objective" experiential reality. Human observation is never detached; it always participates in the making of experiential reality. Asks Wheeler: "May the universe in some strange sense be 'brought into being' by the participation of those who participate?" He, then, asserts that "the vital act is the act of participation. 'Participator' is the incontrovertible new concept given by quantum mechanics. It strikes down the term 'observer' of classical theory, the [human] who stands safely behind the thick glass wall and watches what goes on without taking part. It can't be done, quantum mechanics says."[3]

The notion of "objective detachment," then, is, in my view, mistaken and Descartes' explicit ultimate detachment, which I viewed as a crucial refinement of the cultural structure paradigm, will have to be regarded as an illusion. What technocracy is based upon is the idea that an observer, through the use of methodology, can be

detached from what s/he observes. Yet, according to Zukav, "the problem that went unnoticed for three centuries is that a person who carries such an attitude certainly is prejudiced. His[/her] prejudice is to be 'objective,' that is, to be without a preformed opinion. In fact, it is impossible to be without an opinion. An opinion is a point of view. The point of view that we can be without a point of view is a point of view. The decision itself to study one segment of reality instead of another is a subjective expression of the researcher who makes it. It affects his[/her] perceptions of reality, if nothing else."

According to quantum mechanics, to observe reality is to change it. "If we observe a certain particle collision experiment, not only do we have no way of proving that the result would have been the same if we had not been watching it, all that we know indicates that it would not have been the same, because the result that we got was affected by the fact that we were looking for it."

It follows from the above that, "according to quantum mechanics there is no such thing as objectivity. We cannot eliminate ourselves from the picture. We are a part of nature, and when we study nature there is no way around the fact that nature is studying itself. Physics has become a branch of psychology, or perhaps the other way round."[4] What, then, has happened to "truth," "objective truth?" Answers Zukav: "The scientific idea of truth traditionally had been anchored in an absolute truth somewhere 'out there'--that is, an absolute truth with an independent existence. The closer that we

came in our approximations to the absolute truth, the truer our theories were said to be. Although we might never be able to perceive the absolute truth directly . . . still we tried to construct theories such that for every facet of absolute truth, there was a corresponding element in our theories."

But then came the year 1927 and with it the Copenhagen Interpretation of Quantum Mechanics which did "away with this idea of a one-to-one correspondence between reality and theory." According to Zukav, the Copenhagen Interpretation was so extraordinarily important because "for the first time, scientists attempting to formulate a consistent physics were forced by their own findings to acknowledge that a complete understanding of [ultimate] reality lies beyond the capabilities of rational thought. It was this that Einstein could not accept. 'The most incomprehensible thing about the world,' he wrote, 'is that it is comprehensible.' But the deed was done. The new physics was based not upon 'absolute truth,' but upon <u>us</u>."[5]

Here we are, then: creators of the universe and of ourselves, since we are a part of the universe. We are not detached from the universe; we (the subjective) and the universe--including our bodies--(the objective) are two inseparably interwoven and interdependent, versions of one and the same experiential continuum, namely the psychological and the epistemological. This conclusion should not surprise us. The philosophy of quantum physics only confirms what I have been saying all along: that the psychological and the epistemological are evolutionarily and inseparably linked. Thus we

have to reject not only the explicit core cultural presupposition that the symbol(ic) (the psychological and/or the epistemological) is (metaphysically) detached from what it symbolizes, but also the view that the psychological and the epistemological are (experientially) detached or detachable from each other, since the alleged experiential detachment presupposes the alleged metaphysical detachment.

Now, there is a school of Western thought which insists that the psychological and the epistemological are mutually independent: this school is logical positivism. To increase our awareness of the myth of detachment, we must now contend with logical positivism which holds that science, i.e., the epistemological, is morally/esthetically value-free.

## 73. The Fall of the Positivist Bastion

> For the scientist to close his[/her] eyes to the fact that scientific method intrinsically requires the making of value decisions, for him[/her] to push out of his[/her] consciousness the fact that [s/]he does make them, can in no way bring him[/her] closer to the ideal of objectivity.
>
> Richard Rudner[6]

> Science is unable to critique its own limits. It is thereby doomed to perpetual adolescence and no growth of size or predictive power can save science from this fate.
>
> Phil Shepard[7]

In Chapter 61 I had already exposed the myth of a value-neutral technology. While one may admit that technology is a

value-laden, political and economic tool of oppression, control and exploitation in the hands of the ruling technocratic power elite, one may nevertheless argue that technology is a value-laden practical application of a pure and value-free science. That science, however, can never be value-free, that I shall attempt to argue, first, on epistemological grounds (in this chapter) and then on psychological grounds (in the next chapter).

When I differentiate between epistemological and psychological grounds upon which the value-neutrality of science can be contested, I do so for argument's sake since, from my point of view, the cognitive (epistemological) and the esthetic (psychological) are not separate, but evolutionarily and inseparably linked. For argument's sake means for the positivist's argument sake.

Logical positivists hold that the methodology of science is value-neutral. Roughly that methodology consists of (1) advancing a hypothesis, (2) spelling out in an "if-then" fashion the inferences which can be drawn from that hypothesis, (3) testing the inferences and (4) accepting or rejecting the hypothesis advanced on the basis of the testing results.

When, in Chapter 61, I showed that technology is value-laden rather than value-neutral, the values I was referring to were political and economic values, which I may also term practical values in the sense that technology is the practical application of theoretical science, i.e., technology is of or concerns social practice. The values I am now considering are theoretical rather than practical

ones. The theoretical values of science may be differentiated into epistemic values (cognitive values) and moral values (esthetic/ethic, i.e., psychological values).

Logical positivists never claim that ideal methodological science is epistemically value-neutral, for science aims to be governed by epistemic values such as, for example, "evidence," "simplicity," "plausibility," "rigor," "validity," etc. They assert instead that it is morally value-neutral.[8] Thus, the issue, for the positivist as well as for the anti-positivist, is whether the ideal methodology of science is morally, i.e., psychologically, value-free. For, the positivist it is; for the anti-positivist it is not. To challenge the positivist's stance is to attack him/her on what s/he would consider "purely epistemic" grounds. And this is precisely what Richard Rudner has, in my opinion, successfully done. In his article "The Scientist Qua Scientist Makes Value Judgments," he does not mount his attack from psychological grounds which, for the positivist, is to say from extra- or prescientific grounds, but directly penetrates the epistemic-methodological bastion of logical positivism. What he is after is to show that the acceptance and rejection of a hypothesis, both integral parts of ideal scientific methodology, are morally value-laden.

Let us follow his argument. First, he discards those propositions which, according to him, do not challenge the positivist's ideal methodology of science. According to Rudner, "those who contend that scientists do essentially make value judgments generally support their contentions by either

"A. pointing to the fact that our having a science at all somehow 'involves' a value judgment, or B. by pointing out that in order to select, say among alternative problems, the scientist must make a value judgement; or (perhaps most frequently) C. by pointing to the fact that the scientist cannot escape his[/her] quite human self--[s/]he is a 'mass of predilections' and these predilections must inevitably influence all of his[/her] activities not excepting his[/her] scientific ones."

These arguments, however, are easily discarded by many empirically-oriented philosophers of science and scientists who maintain "that the value judgments involved in our decisions to have a science, or to select problem A for attention rather than problem B are, of course, extra-scientific. If (they say) it is necessary to make a decision to have a science before we can have one, then this decision is literally pre-scientific and the act has thereby certainly not been shown to be any part of the procedures of science. Similarly the decision to focus attention on one problem rather than another is extra-problematic and forms no part of the procedures involved in dealing with the problem decided upon. Since it is these procedures which constitute the method of science, value judgments, so they respond, have not been shown to be involved in the scientific method as such. Again, with respect to the inevitable presence of our predilections in the laboratory, most empirically oriented philosophers and scientists agree that this is "unfortunately" the case; but, they hasten to add, if science is to progress toward

objectivity the influence of our personal feelings or biases on experimental results must be minimized. We must try not to let our personal idiosyncracies affect our scientific work. The perfect scientist--the scientist qua scientist does not allow this kind of value judgment to influence his[/her] work. However, much as [s/]he may find doing so unavoidable qua father, qua lover, qua member of society, qua grouch, when [s/]he does so [s/]he is not behaving qua scientist."[9]

But, even when the positivist scientist behaves qua positivist scientist, s/he is bound to make moral value judgments when s/he comes to accept or reject a hypothesis. Let us assume with Rudner that "no analysis of what constitutes the method of science would be satisfactory unless it comprised some assertion to the effect that the scientist as scientist accepts or rejects hypotheses . . . then clearly the scientist as scientist does make value judgments. For, since no scientific hypothesis is ever completely verified, in accepting a hypothesis the scientist must make the decision that the evidence is sufficiently strong or that the probability is sufficiently high to warrant the acceptance of the hypothesis. Obviously our decision regarding the evidence and respecting how strong is 'strong enough,' is going to be function of the importance, in the typically ethical sense, of making a mistake in accepting or rejecting the hypothesis. Thus, to take a crude but easily managable example, if the hypothesis under consideration were to the effect that a toxic ingredient of a drug was not present in lethal quantity,

we would require a relatively high degree of confirmation or confidence before accepting the hypothesis--for the consequences of making a mistake here are exceedingly grave by our moral standards. On the other hand, if say, our hypothesis stated that, on the basis of a sample, a certain lot of machine stamped belt buckles was not defective, the degree of confidence we should require would be relatively not so high. How sure we need to be before we accept a hypothesis will depend on how serious a mistake would be."[10]

With this in mind, we will have to admit that we cannot warrant a single scientific hypothesis on the basis of positivist methodology without making a moral value judgment. It follows that the positivist notion of a "purely epistemic" scientific methodology is a product of wishful thinking.

That the positivist methodology of science cannot be purely or independently epistemic, even from within the positivist's frame of mind, does not surprise us, for, from the vantage point of our evolution of thought, the epistemic (the cognitive) is a refined, object-ified and form-alized esthetic and hence ethical mode of understanding, describing, explaining, creating and evaluating our experiential reality or reality experience. For us, as we saw in Chapter 64, an epistemic value judgment is a "cognified" moral value judgment.

From within the standpoint of our evolution of thought, according to which the epistemological and the psychological are not separate, we can speak neither of a pure epistemology nor of a pure

psychology (or, for that matter, of a pure sociology) of science, but only of a psycho-epistemology or socio-epistemology of science. This is why we cannot distinguish, as the positivist does, between the context of discovery, i.e., the psychology and sociology of science, and the context of validation (justification), i.e., the epistemology of science. For, if the epistemological and the psychological (and sociological) are evolutionarily and inseparably linked, the former is not only a form-alized version of the latter, but also influences and is influenced by the latter and hence the context of validation and the context of discovery can only be "ideally" or "fictitiously" separated. This abstract human-made separation, however, does not correspond to actual human scientific practice, nor does it have anything to do with the way we come to understand the world and our place in it, i.e., with our experiential reality or reality experience.

Since the positivist ideal of methodological science is not even sound as an ideal, it should be discarded. This would prevent techno-economic civilization and its ruling elite, the technocracy, from appealing to it. What needs to be pointed out to the technocratic minds is that their holy cow, the techno-scientific structure paradigm, alias logico-positivist science, is not that holy at all; that, on the contrary, its most crucial internal defect is its epistemic self-complacency which utterly ignores its evolutionary linkage with and dependence upon the psychological, the subjective, the esthetic. Considering that techno-economic civilization has evolved upon such a formidable illusion, is it any wonder that, over

and over again, it proves itself so extremely vulnerable and at the brink of collapse?

## 74. Science as Mythology or the Psychic Style of Science

> The important monopoly that must be broken . . . is . . . the psychic monopoly of the objective consciousness.
>
> Theodore Roszak[11]

> Ironic as this is, it is the fate of all those who engage in "mythoclasm" . . . [to] find themselves in secret ways constructing new myths again.
>
> Rollo May[12]

As I mentioned in the previous chapter, it is a psycho-epistemology of science which is compatible with my evolutionary view of classic-theoretic rationality. However, it is beyond the scope of this work to develop such a psycho-epistemology. I am attempting in these chapters to point to what is wrong with the notion of a purely epistemic approach to science, a purely cognitive view of science. Now that I have argued that the allegedly morally value-free methodology of science is actually morally value-laden and rooted in the esthetic/ethical side of the human experiential continuum, let me delve, once more for argument's sake and as if the psychology and epistemology of science were independent of each other, into the psychology of science. The value-ladenness of the latter, much more blatantly than that of the epistemology of science, reveals to us the perversity of a technocratic frame of mind which deems

itself to be based on a pure, objective and value-neutral techno-science.

According to Roszak, science has not de-mythologized human thinking; it has re-mythologized it.[13] If, instead of viewing a myth as designating "the telling of unverifiable, if not downright false, tales about remote ages and places,"[14] we regard it "at its deepest level [as] that collectively created thing which crystallizes the great, central values of a culture [and as], so to speak, the intercommunications system of culture," then science "is emphatically not some manner of definitive transcultural development whose cogency derives from the fact that it is uniquely in touch with the truth. Rather, like a mythology it is an arbitrary construct in which a given society in a given historical situation has invested its sense of meaningfulness and value."[15]

Western techno-economic civilization functions according to what Goulet would call a scientific existence rationality, i.e., an existence rationality based upon a purportedly "objective" consciousness. Megacivic life evolves within the mythology of techno-science; a mythology so strong that it suppresses, disregards or relegates to the irrelevant all subjective-esthetic experience. And yet, according to Polanyi, "the ultimate justification of my scientific convictions, always lies in myself. At some point I can only answer, 'For I believe so.'"[16] According to Kinget, Polanyi is the "scientist-philosopher who champions the view that science at its deepest level is a faith, a subjective interpretation within a sociohistorical

context (referring, no doubt, to science as theoretical explanation not as application or technology). 'The premises of science on which all scientific teaching and research rest are the beliefs held by scientists on the general nature of things.'"[17]

While Polanyi stresses the subjective faith intrinsic to scientific knowledge, Royce echoes Roszak's view of science as a mythology, when he writes that "when [humans] pool their existentially valid findings and project them out into the universe and ask the ultimate questions of life, when they, in effect, try to encompass the totality of things, they are, in my opinion, offering a mythological statement concerning the nature of reality." Instead of apprehending total reality, the best humans "can muster is an image of this totality--a reality image, or a myth. It happens that the view which is currently accepted as 'really' real is the image we gain from the scientific community. That is, science is what is really believed in these days. Science, therefore, is in danger of becoming ultimatized or mythologized. Science is in danger of religiofication, the art of turning a secular matter into a religion."[18]

Perhaps we might say that Royce has understated his case, for, when we observe how thoroughly imbued with the ghost of science our daily existence has become, it is difficult to regard science as in danger of becoming mythologized, of succumbing to religiofication; have not the scientific experts already become the new high priests of the Godfather Science?

If, according to Roszak, "the myth at its deepest level is that collectively created thing which crystallizes the great, central values of a culture [and if] it is so to speak, the intercommunications system of culture,"[19] then it is hard to see why techno-economic and megacivic Western Culture, which is preponderantly a culture of science passionately devoted to the cult of science, should not be regarded as a mythological culture encapsulated within the myth of objective consciousness.

According to Roszak the intensive cultivation of objective consciousness results in a "psychic style" which features three major characteristics and which he labels as (1) the alienative dichotomy, (2) the invidious hierarchy and (3) the mechanistic imperative.[20]

1. The alienative dichotomy is the outcome of the, metaphorically speaking, divestiture of the person from the act of knowing and the known about. It presupposes, according to Roszak, the division of reality "into two spheres, which would seem best described as 'In-Here' and 'Out-There.' By In-Here is meant that place within the person to which consciousness withdraws when one wants to know without becoming involved in or committed to that which is being known."

When I withdraw from the Out-There and "when I convince myself that I can create a place within me that has been cleansed of all those murky passions, hostilities, joys, fears, and lusts which define my person, a place that is 'Not-I,' and when I believe that it is <u>only</u> from the vantage point of this Not-I that reality can be

accurately perceived, then I have begun to honor the myth of objective consciousness,"[21] then I have achieved what in Chapter 56 I called the ultimate detachment. It is the estrangement of the knower from the known as well as from the act of knowing.

According to Roszak, the alienative dichotomy is safeguarded in a number of ways: "by the intervention of various mechanical gadgets between observer and observed; by the elaboration of chilly jargons and technical terms that replace sensuous speech; by the invention of strange methodologies which reach out to the subject matter like a pair of mechanical hands; by the subordination of the particular and immediate experience to a statistical generalization; by appeal to a professional standard which excuses the observer from responsibility to anything other than a lofty abstraction--such as 'the pursuit of truth,' 'pure research,' etc." Protective and alienative as they are, these strategies "are especially compatible with natures that are beset by timidity and fearfulness; but also with those that are characterized by plain insensitivity and whose habitual mode of contact with the world is a cool curiosity untouched by love, tenderness, or passionate wonder."[22]

2. The invidious hierarchy is created when "the line which divides In-Here from Out-There . . . becomes a line between a place where it is desirable and secure to be (In-Here) and a place that is untrustworthy, perhaps downright dangerous (Out-There). In-Here is the center of reliable knowledge; it knows what it is doing; it learns, plans, controls, watches out cunningly for threats and

opportunities. The alternative to being in a place of reliable knowledge is, obviously, to be in a place of drift, unpredictability, stupidity. Such is what Out-There becomes."

The In-Here then approaches the Out-There "as if it were completely stupid, meaning without intention of wisdom or purposeful pattern. In-Here cannot, if it is to be strictly objective, strive to empathize in any way with Out-There. It must not attribute to Out-There what cannot be observed, measured, and--ideally--formulated into articulate, demonstrable propositions for experimental verification . . . the unmoved spectator, cannot feel that Out-There has any ingenuity or dignity."

The consequence of all this: an invidious hierarchy, i.e., a relationship of detachment in which the observer assumes a position of superiority vis-à-vis the observed.[23]

3. Under the spell of the mechanistic imperative "a grand reductive process [has begun] in which culture is redesigned to meet the needs of mechanization."[24] Forecasts Roszak: "when the mechanistic imperative has been successfully internalized as the prevailing life style of our society, we shall find ourselves moving through a world of perfected bureaucrats, managers, operations analysts, and social engineers who will be indistinguishable from the cybernated systems they assist." This will entail a world "of completely objectified human relations: people hopelessly locked off from one another, maneuvering their isolated In-Heres around and about each other, communicating only by their externalized behavior. Words

become mere sounds, concealing more than they convey; gestures become mere physiological twitches; bodies touch without warmth. Each In-Here confronts the others Out-There with indifference, callousness, exploitive intention. Everyone has become a specimen under the other's microscope; no one can any longer be sure that anyone else is not perhaps a robot."[25]

The importance of establishing the value-ladenness of science on epistemic grounds for solliciting technocracy to re-evaluate its epistemological foundation seems trivial when compared to the potential significance of our exposing and becoming aware of the iron grip which the ethos of objectivity has already gained upon the megacivic psyche. Writes Roszak: "Already legions of scientists and military men throughout the world, the products of careful training and selection, give themselves to whole lives of ultimate objectivity. They systematically detach themselves from any concern for those lives their inventions and weapons may someday do to death. They do their job as they are ordered to do it . . . objectively. For them the world at large has become a laboratory--in the same sense that when they enter upon their professional capacity, they leave their personal feelings behind."[26]

That technocracy has pledged allegiance to a purportedly value-free methodological science which upon closer epistemic analysis reveals itself to be, in fact, value-laden, i.e., to have a moral touch to it, may be an interesting and important theoretical and academic discovery, but the latter can in no way measure up with the

practical significance of our realizing that techno-economic civilization, in general, psychologically neuters the human personality into an impersonal and hence an a-moral and immoral megacivic entity, into a fact without value.

A person is neither a fact without value, nor a value without fact. Genuine humanness transcends the fact-value dichotomy; it is a psycho-epistemological whole in which the cognitive is evolutionarily and inseparably linked to the esthetic/ethical.

If we realize this, then we ought to seek to integrate the two spheres of a dichotomized reality into one experiential continuum which encompasses both subjective-esthetic-phenomenal reality and objective-cognitive-formal reality; we can dissolve the invidious hierarchy and topple the arrogant impersonal, partial and defective self, and we can liberate ourselves from the mechanistic imperative which forces us to reduce, with joyless expertise, everything out-there to a mechanical blueprint, mechanized routine or mechanical law and order.

While "the sciences, in their relentless pursuit of objectivity [may] raise alienation to its apotheosis as our only means of achieving a valid relationship to reality,"[27] and while the intense cultivation of objective consciousness furthers a psychic style which deems itself above moral concerns and influences, scientific-objective undertakings, nevertheless, cannot be morally value-free even from within the perspective of a psychic style which tries hard to impersonalize itself. For, whatever it attempts to be, "objective

consciousness is alienated life promoted to its most honorific status as the scientific method."[28]

Alienated life is life, nonetheless; and human life, no matter how perverted and thwarted it may be, is ultimately and essentially subjective, esthetic/ethical, in short, psychological, and as such can never be morally value-free.

In fact, the psychic style of science is riddled with moral presuppositions and esthetic biases. Implicit in the alienative dichotomy are the ethical/esthetic assumptions that the subjective involvement in the known or in the act of knowing is deceptive, that the vagaries of sensuous speech are sloppy and that responsibility to anything else than to incorruptible abstraction, such as to personal or societal considerations, is highly irresponsible. The invidious hierarchy and the mechanical imperative implicitly contain the esthetic/ethical presuppositions that one ought not to trust or empathize with what is a rather disgusting morass, namely the Out-There, and that is is the In-Here's respectable obligation to systematize the unsystematic and to give mechanical meaning-and purposefulness to the physical and organic chaos surrounding it so as to make the Out-There a more sensible haven for a sensitive and sophisticated In-Here.

Thus, science has to be regarded as ethically/esthetically value-laden whether we approach it from within its epistemic or from within its psychological side, i.e., in terms of the psychic style which ensues from its methodological ideal.

We cannot separate the psychological from the epistemological. That we did, in the first place, think of separating the subjective-esthetic/ethical from the objective-cognitive, we owe to the Cartesian illusion that there is, as Roszak would say, an In-Here and an Out-There, and that they are two distinct things.

Once we come to understand that the dichotomy between the psychological and the epistemological cuts us off from a holistic reality experience, we will want to overcome that dichotomy, i.e., we will want to descend from the lofty towers of unfounded epistemological a-morality and try to avoid a psychological mode of consciousness which does not want to see itself connected with the epistemological. For, both an "independent" epistemological reality experience and an "independent" psychological reality experience, live off a static fact-value dichotomy. Human experiential reality, however, is a psycho-epistemological <u>becoming</u> which is not a physical, but a metaphysical evolution. Human reality experience is primarily and essentially a function of thought. Thought evolves, i.e., becomes. Moreover it is not a physical happening; it is <u>beyond</u> the physical sounds of words and morphemes and beyond neurophysiological processes; it is meta-physical.

If it is the case that human experiential reality is, as I hold, a psycho-epistemological becoming which is not a physical, but a meta-physical evolution, then a psycho-epistemology, which attempts to reintegrate the allegedly independent and separate realms of psychology and epistemology, has to be developed on a metaphysical level.

Now that we have sharpened our awareness of the myth of detachment, we need to focus in on how the psychological and the epistemological can be liberated from their Cartesian dichotomous straightjacket, and how they can be reintegrated on one and the same experiential continuum. How, indeed, can we overcome our psychological or epistemological reality experience to come to experience psycho-epistemologically? Since they actually are already integrated and cannot be but integrated, and since we are deluding ourselves that they are not, our task will be to overcome our illusory experiential split towards our actual experiential One, i.e., our psycho-epistemological experiential continuum. But before we can tackle that task we need to further elaborate the basis which will allow us to come better to grips with the means for overcoming our experiential split.

So far, a clear awareness of the myth of detachment and of the defective argumentation in its defense, has been a first step to consolidate the basis upon which we will have to rely in order to develop the means for realizing our psycho-epistemological experiential One.

A second step to take towards our preparation for transcending our experiential split is to inquire into the possibility of an extension of the epistemological upon the psychological and vice versa. To this I shall now turn.

## 75. Beyond a Science of Ethics and an Ethics of Science

> The scientific enterprise is too lopsided to allow science to be of much use in the conduct of human affairs.
>
> René Dubos[29]

I have argued that the experiential One can only be grasped from within a psycho-epistemological mode of understanding. I also have maintained that the epistemological qua epistemological is morally value-laden, i.e., is somehow linked to what I call the psychological. Could this mean that, with regard to our purpose of actualizing a psycho-epistemological mode of consciousness, we would have only to extend the epistemological upon the psychological, i.e., the scientific methodology upon the field of ethics/esthetics? Would a science of ethics bring us any closer to grasping the integrated wholeness of experiential reality?

I think not. For science would "objectively methodologize" esthetics/ethics as a domain of inquiry and that "intellectualized" esthetics/ethics would be a systematic interpretation of esthetic/ethics as a domain of experience. Esthetic/ethical reality experience, however, is logically prior to scientific systematization and hence a science of ethical/esthetic reality experience is inadequate to "epistemologically" handle or account for that pre-systematic esthetic/ethical reality experience as pre-systematic. This is why I think that any attempt to integrate the psychological and the epistemological simply via some sort of extension of the latter over the former is mistaken. But this is exactly what Rudner, who has

helped us to successfully storm the logico-positivist bastion, advocates ought to be done. He writes: "To refuse to pay attention to the value decisions which must be made, to make them intuitively, unconsciously, haphazardly, is to leave an essential aspect of scientific method scientifically out of control.

"What seems called for . . . is nothing less than a radical reworking of the ideal of scientific objectivity. The slightly juvenile conception of the coldblooded, emotionless, impersonal, passive scientist mirroring the world perfectly in the highly polished lenses of his steel rimmed glasses,--this stereotype--is no longer, if it ever was, adequate."

Rudner then goes on to propose "that objectivity for science lies at least in becoming precise about what value judgments are being and might have been made in a given inquiry--and even, to put it in its most challenging form, what value decisions ought to be made; in short that a science of ethics is a necessary requirement if science's progress toward objectivity is to be continuous."[30]

Now: Rudner is not contending (as I do) that science is ultimately ethical/esthetical. All he maintains is that, in some adequate version, scientific methodology, while it is morally value-laden, can nevertheless be explicitly so, and hence can preserve its methodological integrity, once we have accounted for and consciously integrated any moral considerations which might interfere with its complete objectivity. What Rudner envisions is a science which can grasp its moral involvement, objectify it and assimilate it into its

methodological style. While science, for him, is not yet objective, it nevertheless ought to progress continuously in the direction of perfect objectivity, if it is to retain our allegiance. Yet, a perfect objectivity would presuppose that science could completely integrate into its methodology its "ethical-ness" or "esthetic-ness," i.e., that science could justify its ethics and esthetics by explicit methodological rules (including meta-ethical rules). This, however, seems to be impossible to me, when I consider my point that esthetic/ethical reality experience cannot be systematically accounted for as presystematic.

If a science of ethics cannot handle the esthetic/ethical value judgments that are being made or that might have been made, let alone the esthetic/ethical value judgments that ought to be made concerning scientific inquiries, what about an ethics of science or an esthetics of science?

While an ethics/esthetics of science may seem to be particularly appropriate to delimit the competence of science and to argue against technocracy's blindfolded and unconditional reliance upon what it deems to be a morally value-free science (and hence upon a purportedly value-neutral technology); while it might appear to be very well able to handle the value judgments that ought to be made with regard to scientific inquiries, we nevertheless ought to refrain from jumping upon the bandwagon of an ethics or esthetics of science and from declaring that we hold the key to the integration of science and ethics/esthetics, i.e., of the epistemological and the

psychological. Why so? Because, in contrast to a unified methodology of science, there is a plurality of incommensurable ethical/esthetic viewpoints. Furthermore: just as much as scientific methodology is inadequate to handle or to account for pre-systematic or pre-logical esthetic/ethical reality experience, so ethical/esthetical viewpoints, for want of a unified outlook, are inadequate to handle or account for systematic, logical or formal cognitive reality experience. Moreover: from the point of view of my history of thought, the epistemological and the psychological are evolutionarily and inseparably linked. This means that the epistemological encompasses the psychological and vice versa, i.e., scientific reality experience shapes and is shaped by esthetic/ethical reality experience. And this is perhaps why it is impossible to have an adequate science of ethics or an adequate ethics of science, for both epistemological and psychological reality experiences are so tightly interwoven that to draw a clearcut line between the systematic and the pre-systematic, the subjective and the objective, the esthetic/ethical and the cognitive, phenomenal and formal, is inescapably to surrender to the myth of detachment.

Now that I have inquired into the possibility of an <u>extension</u> of the epistemological upon the psychological and vice versa, and now that I have found both kinds of extension inadequate to consolidate the basis upon which we will have to rely in order to develop the means for realizing our psycho-epistemological experiential One, let me look into the possibility of a <u>synthesis</u> between the

epistemological and the psychological and what its conditions of adequacy would be.

# III. TOWARDS A PSYCHO-EPISTEMOLOGICAL SYNTHESIS

## 76. Towards the Transcendental-Involved Ecocultural Paradigm

> Reality-as-a-whole demands a total approach; it demands the type of openness that only the totally functioning or unencapsulated [hu]man can provide.
>
> Joseph R. Royce[1]

> We should re-establish continuity in our knowledge as a whole--a continuity which would no longer be hypothetical and constructed, but experienced and lived.
>
> Henri Bergson[2]

In the previous chapters I argued at length that neither the psychological nor the epistemological actually stand by themselves and that, therefore, all attempts to come to grips with romantic-esthetic and classic-theoretic rationality qua detached and mutually independent modes of consciousness are doomed to remain defective. Most of us humans fancy ourselves to be or to want to be either purely romantic-esthetic or classic-theoretic minds; this is why there is so little effort on our behalf to tackle our ways of reality experience as they actually are, namely psycho-epistemological. But this is precisely what we direly need to do in order to undo the economic, socio-developmental, ecological and psycho-behavioral havoc we have wrecked and still are wrecking upon ourselves.

Now: how are we going to blaze the trail for a synthesis between the techno-scientific cultural structure paradigm and the axial cultural paradigm? I suggest that perhaps the most important pre-condition to get a firm grip on the problematic is to revise both cultural paradigms in terms of their core cultural presuppositions. Let me therefore compare their core cultural presuppositions as I listed them in Chapters 59 and 60 (for the techno-scientific cultural structure paradigm) and in Chapter 64 (for the axial cultural paradigm), and let me suggest some explicit conditions of adequacy for the coming about of a psycho-epistemological synthesis.

First: both modes of consciousness are based on the same illusive core cultural presupposition that the symbol(ic) is detached from the symbolized.

A first condition of adequacy would be the explicit core cultural presupposition that the symbolic is <u>not</u> detached from the symbolized, i.e., that human thought is <u>involved</u> with what it thinks about.

Second: for the romantic-esthetic viewpoint the psychological (the esthetic/ethical, the intuitive, the emotional, the subjective, the phenomenal) is explicitly real and the epistemological is at best an exceedingly complex if not futile attempt to come to grips with experiential reality; for the classic-theoretic viewpoint it is the formal underlying the phenomenal which is explicitly real. Both views are mistaken, for they presume a dichotomy between the psychological and the epistemological.

A second condition of adequacy would be the explicit core cultural presupposition that the formal is a form-alized phenomenal, and that both the formal and the phenomenal are incomplete versions of the experiential One.

Third: that human thought is explicitly cognitive, (that the cognitive has explicitly nothing to do with the psychological or the esthetic), and that, implicitly, the creation of experiential reality is a cognitive rather than an esthetic act, these are core cultural presuppositions of the techno-scientific cultural structure paradigm. They owe their existence to the cognitive-esthetic dichotomy just as much as the corresponding core cultural presuppositions of the axial cultural paradigm, namely that human thought is explicitly esthetic, (that the esthetic has explicitly nothing to do with the cognitive), and that, implicitly, the creation of experiential reality is an esthetic rather than a cognitive act.

A third condition of adequacy would be the explicit core cultural presupposition that human thought is a psycho-epistemological phenomenon and that the creation of experiential reality is a psycho-epistemological act.

Fourth: implicit, in both the techno-scientific cultural structure paradigm and the axial cultural paradigm, but not illusory, is the core cultural presupposition that human thought creates experiential reality or reality experience which is phenomenal and which <u>can</u> be <u>formal</u>. This core cultural presupposition direly needs to be rendered explicit. Human thought could not have created formal

reality experience were it not for a phenomenal reality experience which could and was, in part, to be form-alized. The axial cultural paradigm, moreover, explicitly presupposes that phenomenal reality experience, while it can, at times, be form-alized, it ought to be idealized, i.e., perfected.

A psycho-epistemological (ethical/esthetic-cognitive) synthesis between these two core cultural presuppositions to the explicit effect that, while phenomenal reality experience can, at times, be form-alized, it ought to be idealized, i.e., perfected, neither towards an ideal phenomenal reality experience nor towards an ideal formal reality experience, but towards an ideal psycho-epistemological reality experience,would be a fourth condition of adequacy for the merging of classic-theoretic and romantic-esthetic rationality.

Fifth: what has to be rendered explicit is that the cognitive self as well as the esthetic self are partial selves.

A fifth condition of adequacy would be the explicit core cultural presupposition that the cognitive and the esthetic are two intertwined aspects of one and the same whole, i.e., personal, self.

Sixth: that phenomenal reality is many ways, is an explicit core cultural presupposition that characterizes the axial cultural paradigm; that formal reality is one and only one way is a preposterous techno-scientific presupposition, for formal reality is a human construction and as such formal reality is what humans construe it to be. Formal reality has been constructed to be Platonic Forms (Ideas), Pythagorean numbers and ratios, a web of interconnected

events, mathematical or natural lawfulness, etc. Our formal reality experience is a reality experience via verbal descriptions which involve conventionalizations. Since there exist many conventionalizations and thus many modes of verbal descriptions, there also exist many formal reality experiences. Writes Nelson Goodman with regard to the (what may be taken as phenomenal or formal) way the world is: "There are very many different equally true descriptions of the world, and their truth is the only standard of their faithfulness. And when we say of them that they all involve conventionalizations, we are saying that no one of these different descriptions is exclusively true, since the others are also true. None of them tells us the way the world is, but each of them tells us a way the world is.

"If I were asked what is the food for men, I should have to answer 'none.' For there are many foods. And if I am asked what is the way the world is, I must likewise answer, 'none.' For the world is many ways. The mystic holds that there is some way the world is and that this way is not captured by any description. For me, there is no way which is the way the world is; and so of course no description can capture it. But there are many ways the world is, and every true description captures one of them. The difference between [the mystic] and me is, in sum, the enormous difference between absolutism and relativism."[3]

A sixth condition of adequacy then would be constituted by the core cultural presupposition that there are many ways the phenomenal and the formal world are, i.e., that there are many possible

phenomenal reality experiences and many possible formal reality experiences, i.e., there are many psycho-epistemological reality experiences, i.e., that there are many ways of the experiential One.

Seventh: since there are many ways the formal world is, the techno-scientific structure paradigm's core cultural presuppositions that formal reality is material and immutable, and that it is not purposive (end-oriented) may be interpreted as just one way the formal world is. Similarly, the axial paradigm's core cultural presuppositions that phenomenal (experiential) reality is psycho-spiritual and purposive can be regarded as just one way the phenomenal world is. The psycho-spiritual phenomenal world and the material formal world testify to the illusion of a mind-matter dualism. While the phenomenal may or may not be--depending upon one's conventionalizations--psycho-spiritual and purposive, and while the formal, similarly, may or may not be material and non-purposive, the phenomenal and the formal are, as extensions of the experiential One which is primarily and essentially a function of thought, purposive creations of that thought. If thought is primarily esthetic/ethical with regard to a qualitatively meaning- and purposeful self-transformation towards an ideal or perfect self, and if the formal is evolutionarily and inseparably linked with the phenomenal, then the formal is ultimately the result of an esthetic act and as such, just as much as the phenomenal, a purposeful and meaningful means for esthetic and thus ethical self-transformation towards a perfect or ideal self. The human person ultimately and subjectively creates,

purposefully and meaningfully, his/her phenomenal as well as formal reality, i.e., the totality of his/her experiential continuum. If, indeed, all of experiential reality is purposefully and meaningfully created, and if experiential reality's purpose- and meaningfulness is a function of the type of conventionalization human thought bases itself upon, then what we create is a purposeful and meaningful reality experience in all its psycho-epistemological relativity.

A seventh condition of adequacy would be the core cultural presupposition that human reality experience is a psycho-epistemological, i.e., thought-related, reality experience which, at times, can extend more into the phenomenal, and, at other times, more into the formal, but which, at all times is purposeful and meaningful relative to the mode of symbolization or conventionalization employed.

Eighth: as to the axial cultural paradigm's core cultural presupposition that phenomenal reality cannot be reduced to formal reality, and as to the techno-scientific cultural structure paradigm's diametrically opposed core cultural presupposition that all of phenomenal reality can be reduced to formal reality, we must say that both are only partially correct. For, while, for example, sound, colors, objects and spatial patterns can be formalized the existential experience of love, hate, pain, exuberance, guilt and many others cannot be so reduced because they are higly subjective, immaterial and thus unquantifiable.

An eighth condition of adequacy would be the core cultural presupposition that while some phenomenal reality experiences can be formally reduced, there are also some which cannot be so reduced.

Ninth: according to classic-theoretic rationality the reduction of phenomenal reality to formal reality can be quantified; that's correct. According to romantic-esthetic rationality phenomenal reality cannot be quantified; that's correct, too. For, phenomenal reality can only be qualified. The phenomenon "green," for example, cannot be quantified; to describe it in the physical and quantitative terms of lightwave length is to quantify (and not qualify) a formal reality.

A ninth condition of adequacy would be our awareness (in form of an explicit core cultural presupposition) that we can quantify only that phenomenal reality which can be formally reduced.

Tenth: while it is true that, according to classic-theoretic rationality, the reduction of phenomenal reality to formal reality is explicative, i.e., of rational reconstruction, it is also true that, according to romantic-esthetic rationality, phenomenal reality is directly experienced. Formal reality, on the contrary, is not directly experienced.

A tenth condition of adequacy would be the core cultural presupposition that, while phenomenal reality is directly experienced, formal reality is indirectly experienced.

Eleventh: as to the axial cultural paradigm's core cultural presupposition that there is no limitation to the esthetic expansion

of phenomenal reality experience as well as to the techno-scientific cultural structure paradigm's core cultural presupposition that there is no limitation to the cognitive expansion of formal reality experience, we might object that both the cognitive and the esthetic, inseparably interwoven as they are, are limited by each other.

An eleventh condition of adequacy would be the core cultural presupposition that, while the psycho-epistemological expansion of the experiential One is, indeed, unlimited, it is so only in accordance with the self-limiting dialectics between the phenomenal and the formal.

Twelfth: while it is true that, according to classic-theoretic rationality, the formal is controllable and thus exploitable, it is not true that, according to romantic-esthetic rationality, the phenomenal is non-controllable and thus non-exploitable. For, if the formal and the phenomenal, i.e., the epistemological and the psychological, are dialectically and inseparably interwoven, and if the formal is controllable and exploitable, it is also very likely that the phenomenal is controllable and exploitable in terms of the formal, just as much as the formal is controllable and exploitable in terms of the phenomenal. The epistemological does not control and exploit itself; it is controlled and exploited by the psychological. The same holds true for the reverse perspective. Were the psychological not controllable and exploitable by the epistemological, how could we ever mature as persons, how could we ever overcome defective values and aspirations, how could we ever know how to redirect our behavior?

A twelfth condition of adequacy would be the core cultural presupposition that the psychological, i.e., the phenomenal, and the epistemological, i.e., the formal, can dialectically control each other and that human psycho-epistemological reality experience is the dialectical hither-thither between the tightly interwoven psychological and epistemological versions of the experiential One.

These, then, are twelve conditions of adequacy I suggest need to be fulfilled for the coming about of the psycho-epistemological experiential One. More conditions of adequacy may be added; the given twelve ones may be expanded, completed, improved, perhaps corrected. My suggestions are not to be taken as final; they are meant to hint at the direction a revision of both an "independent" psychological rationality and an "independent" epistemological rationality ought to take.

A synthesis between the techno-scientific cultural structure paradigm and the axial cultural paradigm presupposes a revision of both classic-theoretic and romantic-esthetic rationality. It must be a synthesis between these two rationalities in their revised versions: revised, at least, in terms of the above proposed conditions of adequacy for a psycho-epistemological synthesis. With regard to my history of thought, according to which the subjective and the objective are evolutionarily and inseparably interwoven, a psycho-epistemological synthesis of experiential reality can only come about via the synthesis of an epistemological and a psychological rationality not in their detached, but in their <u>involved</u> versions;

for, such a synthesis must overcome the illusion of detachment; it must transcend the In/Here-Out/There dichotomy, the psyche-intellect dichotomy, the value-fact dichotomy, the me/not-me dichotomy. Such a transcendental-involved psycho-epistemological synthesis between the techno-scientific cultural structure paradigm and the axial cultural paradigm would lead to what I would call an ecocultural paradigm: a paradigm which understands the subjective and the objective, the psychological and the epistemological, the phenomenal and the formal, the esthetic/ethical and the cognitive/utilitarian, as eco-evolutionarily and inseparably interwoven extensions of one and the same experiential continuum, the experiential One.

If we are to halt and undo the economic, socio-developmental, ecological and psycho-behavioral havoc we have wrecked upon ourselves, technocracy and its classic-theoretic-"detached" minds have to renounce their conscious or inadvertent pledge to the defective techno-scientific cultural structure paradigm. Similarly, all the romantic-esthetic-"detached" minds will have to cease trying to escape techno-economic civilization and they will have to try to confront megacivic life head-on. Both sides must come to realize what, why and how much they owe to each other with regard to their reality experience; both sides must come to admit their partial and defective stance towards each other and towards the experiential One. I suggest that, for a starter, both types of people re-evaluate the core cultural presuppositions of their own as well as their opponent's

cultural paradigm in terms of the conditions of adequacy for the coming about of the ecocultural paradigm. As to the details for the making of the ecocultural paradigm, they would have to be the subject matter of a work different from this one, the major purpose of which is to treat, in a preliminary fashion, the need, basis, means and program for such an ecocultural paradigm, and not the detailed substance of such a synthesis.

I am not suggesting that something went wrong with the evolution of thought; nor do I mean to maintain that the history of thought could have taken on different paths or that it had to evolve the way it did. All I am considering is that thought evolved the way it did (dichotomizing into two allegedly independent modes of consciousness), that that way brought about harmful economic, socio-developmental, ecological and psycho-behavioral consequences for the human species, and that there is a need to reconcile these two modes of consciousness in their revised version so that we can work towards what there could be with regard to our economic and socio-developmental affairs as well as with regard to our ecological and psycho-behavioral well-being.

What we could come to experience is a psycho-epistemologically balanced way of life reminiscent of the transitional cultural paradigm or of medieval monastic life. This, of course, entails a cultural change. What the abstract-theoretical and the concrete-practical problematic underlying the making of the ecocultural paradigm is like, that I shall elucidate in the remainder of this Part Three.

## 77. Approaches to Culture: Description, Explanation, Evaluation

> "A culture" may be used in either the descriptive or the explanatory sense, or both. The descriptive usage carries explanatory overtones.
>
> An anthropologist[4]

In the previous chapter I came to the conclusion that in order to synthesize the techno-scientific cultural structure paradigm and the axial cultural paradigm into a transcendental-involved eco-cultural paradigm, we need to revise the core cultural presuppositions which characterize both psychological and epistemological rationality. What we need to do now is to construe the abstract-theoretical conceptual basis as well as the concrete-practical conceptual means which allow us to get a firm grip on our revolutionary task, namely to overcome the cultural split between the psychological and the epistemological which marks techno-economic civilization. A first step in that direction is to distinguish between three approaches to culture which I shall term the descriptive, the explanatory and the evaluative approach to culture.

To approach a culture descriptively is to describe a given people in a given period under given circumstances in terms of, among others, their concepts, myths, rituals, habits, skills, industry, dwelling, art, crafts, utensils, instruments, technology, institutions, and family structure, all of which tend to be passed along in some form from one generation to the next.[5] These descriptive terms characterize, what I shall call, a people's symbolic or cultural activity. Cultural activity as symbolic activity is,

according to my history of thought, primarily and essentially esthetic activity. A people's cultural (symbolic) activity may be regarded as the same as its reality experience, for its reality experience is ultimately a symbolic one. Being symbolically active, therefore, may be seen as being experientially real, as experiencing symbolically.

A people's cultural (symbolic) activity and thus its reality experience are based on its communicational skills which allow it to esthetically/ethically express itself as well as to solve problems in a cognitive-utilitarian fashion, i.e., to be psychologically as well as epistemologically active. In Chapter 84, I shall focus in on the relationship between the concrete-practical (empirical) concepts of cultural activity, cultural communication, cultural expression and cultural problem solving. Suffice it to say, for now and as introduction, that my explaining the relationship between these concrete-practical (empirical) concepts is tantamount to construing the concrete-practical conceptual means we need as a necessary condition for bringing about the ecocultural paradigm.

Another necessary condition for transcending our cultural split is to construe an abstract-theoretical conceptual basis which is tantamount to explaining the relationship between theoretical concepts which are abstracted from the descriptive approach to culture. To get access to these abstract-theoretical concepts we need to take an explanatory approach to culture.

An explanatory approach to culture consists in explaining a culture at its descriptive level. It attempts to account for how

a people's cultural (symbolic) activity and thus its reality experience is brought about. The abstract-theoretical concepts, the relationship among which I will expound on in the next two chapters, are those of the core culture, the marginal culture, the cultural paradigm, language and reality experience.

A clear understanding of both the abstract-theoretical and concrete-practical concepts of culture as well as their interrelationship will be necessary before we can tackle in detail the question of the standard by which the ecocultural paradigm is to be brought about.

In Part Four of this work I will elaborate on the standard for cultural change. Whether our conceptual means will be practically applicable and successful we will have to evaluate in terms of some test. Such an evaluative approach to culture consists in evaluating a culture and cultural change at its descriptive level. It attempts to show how a people can know that its cultural (symbolic) activity and thus its reality experience is transforming itself in the desired way.

Let me now construe the abstract-theoretical basis for coming to grips with our revolutionary task.

## 78. Towards Psycho-Epistemological Languages

> We may think of language as the symbolic guide to culture.
>
> Edward Sapir[6]

In Part One, Section II, and under the heading of "what there is," I had embarked upon a description of Western Mega-culture which was centered around four indicators of its cultural state of affairs: the economic, the socio-developmental, the ecological and the psycho-behavioral indicator. In Part Two I traced the history of Western thought from which I had abstracted a number of cultural paradigms each one characterized by a specific set of core cultural presuppositions. I have come to regard the techno-scientific cultural structure paradigm characterized by its set of techno-scientific core cultural presuppositions as explaining the dominant technocratic force in Western Mega-culture, and the axial cultural paradigm characterized by its set of axial core cultural presuppositions as explaining the recessive axiocratic force.

This, of course, is only a partial abstract-theoretical explanation. I shall now sketch in what was left out of these accounts before.

Why, so we may ask, are there so many variations of techno-scientific cultural activity as well as axial cultural activity? How is it that there are four major versions (Sophism, Skepticism, Romanticism and Existentialism) of the Western axial cultural paradigm, which share the same set of axial core cultural presuppositions?

Why is it that, today, there exist a great variety of versions, similar and different from the four major ones, when, at the core of these versions, there is always the same set of cultural presuppositions? Moreover, how it is that the techno-scientific cultural structure paradigm manifests itself in so many national and regional variations? Why isn't there just one version of techno-scientific as well as of axial cultural activity when the former manifests one and the same techno-scientific cultural structure paradigm and the latter one and the same axial cultural paradigm?

My answer: because each of the two cultural paradigms can be operationalized in various ways in various circumstances.

The set of core cultural presuppositions which characterize the techno-scientific cultural structure paradigm, i.e., the techno-scientific core culture which is shared by technocratically-oriented individuals, is operationalized into various techno-scientific cultural activities via various sets of techno-scientific or epistemological marginal cultural presuppositions. These sets of marginal presuppositions, i.e., these techno-scientific marginal cultures, differentiate the technocratically oriented individuals in their various techno-scientific cultural activities.

For example, epistemologically-oriented biologists, economists or techno-scientifically biased physicians share a common techno-scientific core culture, but operationalize or practically connect that core culture via their respective techno-scientific marginal cultures to their respective cultural activities, namely doing

epistemologically-oriented biology, economics or techno-scientifically biased medicine.

Similarly, the set of axial or psychological core cultural presuppositions which characterize the axial cultural paradigm, i.e., the axial core culture which is shared by axiocratically-oriented individuals, is operationalized into various axial cultural activities via various sets of axial or psychological marginal cultural presuppositions. These sets of marginal presuppositions, i.e., these axial marginal cultures, differentiate the axiocratically-oriented individuals in their various axial cultural activities.

For example, psychologically-oriented biologists, economists, or axially biased physicians share a common axial core culture, but operationalize or practically connect that core culture via their respective axial marginal cultures to their respective cultural activities, namely doing axial biology, economics or practicing axial medicine.

An epistemologically-oriented biologist is guided in his/her cultural activity as a biologist by the techno-scientific core culture. That core culture delimits the ends, means and cultural context of his/her activity as a biologist. To him/her the phenomenon of life is not purposive; reducing it to physico-chemical lawfulness is his/her means to formalize or objectify his/her phenomenal and subjective experience of the biological. A psychologically-oriented biologist is guided in his/her activity as a biologist by the axial core culture. To him/her life is purposive and something over and above physico-chemical processes. It is an esthetic, creative phenomenon.

Conceptualizing economic interactions mathematically or statistically is the epistemologically-oriented economist's cultural activity, while a Buddhist economist, say, handles such interactions from within the perspective of human dignity, values, religious beliefs and aspirations. A techno-scientific physician relies on appliances and drugs to keep the human machine running whereas an axial physician attempts to prevent disease by promoting psycho-spiritual health.

In these examples, the contrasting cultural activities are delimited and shaped by two different core cultures. But cultural activities do also differentiate themselves according to diverging marginal cultures.

Take humanistic psychology, transcendental psychology, behavioristic psychology and Freudian psychology. The two former have the axial core culture in common; they differ from each other in their operationalization, in their marginal culture. Their research priorities and their language diverge. Similarly, behaviorism and Freudian psychology share the techno-scientific core culture and differ from each other in their marginal cultures, i.e., in the kinds of topics they handle and the ways they talk about them.

What needs to be emphasized is that all four psychologies use different languages. While all four are expressed in English (French, German, etc.), humanistic and transcendental psychology are expressed in a sublanguage which I will call the language of value; moreover, their common language of value differentiates itself

into the language of humanistic psychology and the language of transcendental psychology. On the other hand, Freudian and behaviorist psychology are expressed in a sublanguage which I will call the language of fact; their common language of fact differentiates itself into the language of Freudian psychology and the language of behaviorism. Language of fact is to be taken as synonymous with language of science or epistemological language or techno-scientific language while language of value is equivalent to language of esthetic/ethics or psychological language or axial language.

Thus, individuals who share the axial core culture speak the core language of value which differentiates itself into various marginal languages of value such as, for example, the language of humanistic psychology, the language of Buddhist economics, the language of poetry, the language of music, the language of painting, etc. Individuals who share the techno-scientific core culture express themselves in the core language of fact which differentiates itself into various marginal languages of fact such as, for example, the language of behaviorism,the language of econometrics, the language of genetic engineering, the language of plant physiology, the language of techno-medicine, etc.

Since the language one speaks is a function of the core culture and the marginal culture one has acquired we should expect that overcoming the illusory split between the axial core culture and the techno-scientific core culture, which is also overcoming the split between the core language of value and the core language of

fact, would affect the various marginal psychological languages as well as the various marginal epistemological languages. For, if we manage to synthesize, as I envision, the axial and the techno-scientific core culture into one psycho-epistemological core culture, the various marginal psychological as well as the various marginal epistemological languages would lose their respective "grounds" and would have to be "grounded" in one and the same core culture and hence in one and the same psycho-epistemological language, i.e., in one and the same core psycho-epistemological language; they would, then, differentiate themselves only as marginal psycho-epistemological languages.

Thus, the language of Buddhist economics (a marginal language of value) and the language of econometrics (a marginal language of fact) would be synthesized into a psycho-epistemological language of economics. Similarly, the languages of Freudian psychology and behaviorism and the languages of humanistic and transcendental psychology and perhaps the languages of any other psychology, would be synthesized into a psycho-epistemological language of psychology.

In sum: transcending the cultural split which marks techno-economic civilization, by synthesizing the axial core culture and the techno-scientific core culture into one psycho-epistemological core culture entails that our hitherto core language of value and our hitherto core langugage of fact will have to transform into a synthesized core psycho-epistemological language and that our hitherto marginal epistemological languages and our hitherto marginal

psychological languages will be synthesized into marginal psycho-epistemological languages.

While our new marginal psycho-epistemological languages will have divested themselves of the illusion of detachment, they still would be specialized, i.e., we still would have a psycho-epistemological language of psychology, of economics, of poetry, etc. However, the new core psycho-epistemological language would also allow for a great variety of de-specialized marginal psycho-epistemological languages, i.e., languages which cut across the boundaries of the specialized marginal psycho-epistemological languages. For example: we could evolve a language able to handle poetry and physics, biology and music; we could even develop genuine multi-disciplinary languages coming to grips with, say, politics, economics, philosophy and psychology or with biology, music, poetry, physics and chemistry, etc.

The transcendental-involved ecocultural paradigm I envision would thus be characterized not only by the new set of psycho-epistemological core cultural presuppositions, i.e., by the new psycho-epistemological core culture, and hence by the new core psycho-epistemological language, but also by a plurality of specialized and de-specialized marginal psycho-epistemological languages. Our quasi-monolithic Western Mega-culure which revolves around a dominant techno-scientific core culture and a recessive axial core culture would be transformed into a pluralistic eco-culture revolving around a psycho-epistemological core culture. Its

core language of value and its core language of fact would be synthesized into a core psycho-epistemological language; its specialized and incomplete marginal languages of value and marginal languages of fact would be synthesized into specialized or de-specialized but complete marginal psycho-epistemological languages.

The members of our ecocultures would be psycho-epistemological polyglots. As such they also would be capable of a plurality of cultural activities and thus of a plurality of reality experiences. That this is so I shall argue for in the next chapter.

## 79. Towards Psycho-Epistemological Cultural Activities and Reality Experiences

> We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation.
>
> Edward Sapir[7]

> Our primary world of reality is a verbal one.
>
> Susanne K. Langer[8]

That our techno-economic Western Mega-culture is split is due to the fact that communication is impaired between those individuals who stress their epistemological side at the expense of their psychological side and those individuals who do the reverse. The former speak the core language of fact and adhere to the techno-scientific core culture which characterizes the techno-scientific cultural paradigm; the latter speak the core language of value and adhere to the axial core culture which characterizes the axial cultural paradigm.

And yet, both types of individuals speak the same English (French, German, etc.) language. How is this possible?

The syntax and the semantics of English (and Indo-European languages in general) are such that they allow for the coming about of two sublanguages, namely the epistemological and the psychological sublanguage. The former incorporates, in its syntax and semantics, the set of techno-scientific core cultural presuppositions and the latter the set of axial core cultural presuppositions. That's why I called the former the core language of fact and the latter the core language of value.

If the core language of fact and the core language of value share or have grown out of the same "parent" language of English, does that mean that the syntax and the semantics of that language incorporate both sets of core cultural presuppositions, i.e., both the axial and techno-scientific core culture? Perhaps the answer is that its syntax lends itself to two semantically different interpretations or usages: an epistemological and a psychological one.

From the point of view of my history of thought the syntaxes of languages started lending themselves to two semantically diverging interpretations or usages, i.e., started allowing for two sublanguages (the psychological and the epistemological sublanguage) to develop, beginning with what I may call "transitional languages" which incorporated what I termed the transitional cultural paradigm characterized by a set of transitional core cultural presuppositions. Before the transitional languages there were what I might call the "primeval

languages" the syntaxes of which lend themselves only to a psychological interpretation or usage (since primeval humanity's reality experience had not stretched out into the epistemological) and which incorporated what I termed the primeval cultural paradigm characterized by a set of primeval core cultural presuppositions. Out of the transitional languages grew languages the syntaxes of which allowed for the development of increasingly diverging sublanguages incorporating increasingly refined cultural paradigms characterized by increasingly refined sets of (axial or techno-scientific) core cultural presuppositions.

English (French, German, etc.) is such a language. It is used in either of its two sublanguages: the psychological and the epistemological one. Depending on whether it is spoken as core language of fact or as core language of value, the speaker of English will have an epistemological or a psychological reality experience and will engage in techno-scientific or axial cultural activities. For me, a language fashions cultural (symbolic) activity and thus reality experience.

That language delimits and channels a society's reality experience is the thesis of linguistic relativism as defended most notably by Sapir and Whorf.

Writes Sapir: "Language is becoming increasingly valuable, as a guide to the scientific study of a given culture. In a sense, the network of cultural patterns of a civilization is indexed in the language which expresses that civilization. It is an illusion to think

that we can understand the significant outlines of a culture through sheer observation and without the guide of the linguistic symbolism which makes these outlines significant and intelligible to society."[9]

According to Sapir a people's language guides us to its "social reality," for "human beings do not live in the objective world alone, nor alone in the world of social activity as ordinarily understood, but are very much at the mercy of the particular language which has become the medium of expression for their society. It is quite an illusion to imagine that one adjusts to reality essentially without the use of language and that language is merely an incidental means of solving specific problems of communication or reflection. The fact of the matter is that the 'real world' is to a large extent unconsciously built up on the language habits of the group. No two languages are ever sufficiently similar to be considered as representing the same social reality. The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached."[10]

Thus, different languages create different worlds, i.e., different languages delimit different reality experiences. For, according to Sapir, a "language is not merely a more or less systematic inventory of the various items of experience which seem relevant to the individual, as is so often naively assumed, but is also a self-contained, creative symbolic organization, which not only refers to experience largely acquired without its help but actually defines experience for us by reason of its formal completeness and

because of our unconscious projection of its implicit expectations into the field of experience."[11]

If we regard Sapir's "implicit expectations" as characterized by core cultural presuppositions, then my speculation that the core language of fact and the core language of value shape different cultural activities and thus different reality experiences, finds corroboration in his views.

That we create or organize our reality experience, and that thus our reality experience is (the result of) an active mental process, is also supported by Whorf who argues that the "linguistic system (in other words, the grammar) of each language is not merely a reproducing instrument for voicing ideas but rather is itself the shaper of ideas, the program and guide for the individual's mental activity, for his analysis of impressions, for his synthesis of his mental stock in trade."[12] According to him, "we dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds--and this means largely by the linguistic systems in our minds. We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way--an agreement that holds throughout our speech community and is codified in the patterns of our language." This agreement is, according to Whorf, implicit

and unstated, "but its terms are absolutely obligatory." We cannot talk and cannot be understood at all by our language community except "by subscribing to the organization and classification of data which the agreement decrees."[13]

Here, Whorf's "implicit and unstated agreement" is to be equated with Sapir's "implicit expectations" and to be regarded as characterized by core culture.

In subscribing to linguistic relativism Whorf supports my view that there is no such thing as "detached," impartial or scientific (formal) reality experiences and hence no "pure" languages of fact, that any objective lawfulness is a subjective and symbolic human creation, and that there is more than one way the world is. For, according to him, thought is a matter of linguistic syntax and semantics which does not depend "on laws of logic or reason which are supposed to be the same for all observers of the universe--to represent a rationale in the universe that can be 'found' independently by all intelligent observers, whether they speak Chinese or Choctaw."

In techno-economic civilizations, "the formulations of mathematics and of formal logic have acquired the reputation of dealing with this order of things: i.e., with the realm and laws of pure thought. Natural logic holds that different languages are essentially parallel methods for expressing this one and the same rationale of thought and, hence, differ really in but minor ways which may seem important only because they are seen at close range. It

holds that mathematics, symbolic logic, philosophy, and so on are systems contrasted with language which deal directly with this realm of thought, not that they are themselves specialized extensions of language."[14]

However, the doctrine of natural logic is incorrect, for, according to Whorf, "no individual is free to describe nature with absolute impartiality but is constrained to certain modes of interpretation even while [s/]he thinks him[/her]self most free. The person most nearly free in such respects would be a linguist familiar with very many widely different linguistic systems. As yet no linguist is in any such position. We are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated."[15]

This conclusion, however, gains striking support only when we contrast what we would call our modern Indo-European natural languages to non-Indo-European ones. For, if we compare the former among themselves or say, to their Greek and Latin ancestors, we would only note that among these languages "there is a unanimity of major pattern which at first seems to bear out natural logic. But this unanimity exists only because these tongues are all Indo-European dialects cut to the same basic plan, being historically transmitted from what was long ago one speech community."[16]

Non-Indo-European languages, however, are not cut to that same basic plan: non-Indo-European scientists do not observe and describe

the universe from within the perspective of their native languages but from within that of the Indo-European core language of fact. Writes Whorf: "That modern Chinese or Turkish scientists describe the world in the same terms as Western scientists means, of course, only that they have taken over bodily the entire Western system of rationalization, not that they have corroborated that system from their native posts of observation." And he continues: "When semitic, Chinese, Tibetan, or African languages are contrasted with our own, the divergence in analysis of the world becomes more apparent; and, when we bring in the native languages of the Americas, where speech communities for many millenniums have gone their ways independently of each other and of the Old World, the fact that languages dissect nature in many different ways becomes patent. The relativity of all conceptual systems, ours included, and their dependence upon language stand revealed." And he adds: "That American Indians speaking only their native tongues are never called upon to act as scientific observers is in no wise to the point. To exclude the evidence which their languages offer as to what the human mind can do is like expecting botanists to study nothing but food plants and hothouse roses and then tell us what the plant world is like!"[17]

Take, for example, the reality experience of time and matter. That there is more than one way to experience time and matter we know from Whorf's studies of the (American-Indian) Hopi language. According to him, the time experience allowed for by the Indo-European core language of fact is a physical one which differs markedly from

the time experience allowed for by the Hopi language and which he calls "duration." Our physical time "is conceived as like a space of strictly limited dimensions, or sometimes as like a motion upon such a space, and employed as an intellectual tool accordingly. Hopi 'duration' seems to be inconceivable in terms of space or motion, being the mode in which life differs from form, and consciousness in toto from the spatial elements of consciousness. Certain ideas born of our own time-concept, such as that of absolute simultaneity, would be either very difficult to express or impossible and devoid of meaning under the Hopi conception, and would be replaced by operational concepts."

According to Whorf, "our 'matter' is the physical subtype of 'substance' or 'stuff,' which is conceived as the formless extensional item that must be joined with form before there can be real existence. In Hopi there seems to be nothing corresponding to it; there are no formless extensional items; existence may or may not have form, but what it also has, with or without form, is intensity and duration, these being nonextensional and at bottom the same."[18]

This is just one example of how time or matter can be experienced in two different modes. If we study other languages besides the aforementioned, we may very well come up with other modes of time or matter experiences.

That the Hopi and the Indo-European experience time or matter differently is due to differing core cultures imbedded in the syntax and semantics of their languages. That, for example, the

Indo-European experiences matter as "stuff" with "form" is in part due to the epistemological core cultural presupposition that reality is material.

In short, my point in discussing linguistic relativism is this: if different languages shape different reality experiences and thus different cultural activities, then speakers of the core language of fact will experience a different reality than speakers of the core language of value. The former will also engage in cultural activities different from the latter's. Those who speak the core epistemological language may be said to have an epistemological reality experience, and, thus, to engage in an epistemological cultural activity; those who speak the core psychological language may be said to have a psychological reality experience, and, thus, to engage in a psychological cultural activity.

Furthermore, speakers of the core language of fact may be regarded as sharing among themselves one and the same core epistemological reality experience, and, thus, as engaging in cultural activities that are one and the same at their core, but as differing from each other as to the marginal epistemological reality experiences, and, thus, as to their marginal epistemological cultural activities. Similarly, the speakers of the core language of value may be viewed as having one and the same core psychological reality experience, and, thus, as engaging in one and the same core axial cultural activity, but as diverging from each other as to their marginal psychological reality experiences, and, thus, as to their marginal axial cultural activities.

However, considering the illusive split between the axial and the techno-scientific core culture and hence among psychological and epistemological marginal cultures, it follows that the core language of value (as well as the marginal psychological languages) and the core language of fact (as well as the marginal epistemological languages) are defective and incomplete. If this is so, then a people's core psychological reality experience (as well as its marginal ones) and a people's core epistemological reality experience (as well as its marginal ones) are defective and incomplete. So are a people's core psychological cultural activity (as well as its marginal axial cultural activities) and a people's core epistemological cultural activity (as well as its marginal ones).

Transcending the aforementioned delusory split by synthesizing the axial and the techno-scientific core culture into a psycho-epistemological core culture is not only completing each core culture with the other (as well as each marginal culture with other marginal cultures), but it also entails a synthesis of two incomplete core languages (of fact and value) into a complete, or at least more complete, core psycho-epistemological language, and therewith a synthesis of two incomplete and defective core reality experiences (cultural activities) into a complete, or at least more complete, core psycho-epistemological reality experience (cultural activity). Thus, the making of the ecocultural paradigm will be marked by the coming about of new and (more) complete marginal reality experiences and marginal cultural activities.

Contemporary Western techno-economic civilization allows for a relatively great number of reality experiences or cultural activities. One can, for example, engage oneself in Buddhist ecoonomics or in techno-economics, in techno-medicine, in romantic poetry, etc. Yet, perhaps with a few exceptions, all these cultural activities are either epistemologically- or psychologically-oriented as well as specialized, and hence, incomplete and defective. After the eco-cultural revolution, there will be a much greater variety of reality experiences or cultural activities since the core psycho-epistemological language common to every ecocultural individual will allow not only for (more) complete specialized marginal psycho-epistemological reality experiences and cultural activities, but also for de-specialized marginal psycho-epistemological reality experiences and cultural activities.

So far I have construed the abstract-theoretical conceptual basis for transcending our cultural split by taking an explanatory approach to (our Western) culture. Let me now add, from within the same explanatory approach, the concrete-practical conceptual means as another necessary condition in the making of the ecocultural paradigm. For, until now I have always understood reality experience, cultural activity, core culture, marginal culture, cultural split, psycho-epistemological language, etc., to apply to a human society, a social group. Since social change is what we desire it seems to be appropriate that I focused my interest on, say, social reality experience or on the social cultural split. But, so we must ask,

where is the locus of a society's core culture, if not in the human individual; who is culturally active if not the human individual? Moreover, who is going to revise our core language of fact, our marginal languages of value, etc., if not human individuals? And, ultimately, who is going to bring about social change, if not human individuals?

Assuming that human individuals are the instigators of social change, we must now ask the concrete-practical question of how it is possible that humans can assume the role of social change agent.

## 80. De-Specialization and Transcendental Rationality

> Part of our problem today is precisely that we collectively know too much to make sense of individually. Yet knowledge that cannot be integrated constructively in people's lives, however great its quantity, is dangerous at best.
>
> Phil Shepard[19]

> There is no such thing as Truth at large. It is always relative to the problematic situation.
>
> George Herbert Mead[20]

Who, among the members of techno-economic civilization, ought to be a social change agent? Ideally everyone! This means that both those who stress their epistemological side at the expense of their psychological side and those who do the reverse need to become involved in the making of the ecocultural paradigm. The commitment to overcome our social split between technocrats and axiocrats is the commitment to overcome the personal cultural split which each

one of us is the locus of, be s/he speaking and experiencing epistemologically or psychologically. Both the techno-scientific and the axial individual must come to perceive the fundamental flaw in his/her core and marginal culture and hence in his/her core and marginal languages, reality experiences and cultural activities. So far the aim of this work has been to render the reader aware of that crucial defect, namely the myth of detachment or the delusive split between the epistemological and the psychological. This chapter will address the question of how this awareness can be put to work for individual and social cultural change.

Whether one is axiocratically or techno-scientifically biased or whether one has already disaffiliated oneself from both orientations, each one of us, once s/he has experienced the inseparable interwovenness of the psychological and the epistemological, i.e., the artificiality of our social cultural split and our individual cultural split, ought to communicate this experience to those who still serve the myth of detachment. Then and only then can such experiences become socially relevant and help induce social change. While not sufficient, the intersubjective communication of the individual realization that the fact-value dichotomy is an illusion is the concrete-practical means and condition for the building of an eco-culture. I shall now explain how the individual's transcendence of his/her personal cultural split can lead to his/her society's transcendence of its social cultural split.

First, what is the role of the epistemological and the psychological? Are they evolving and functioning in a social vacuum?

Axiocrats act culturally, experience reality and communicate in a language, all of which are in line with the axial core culture which enables them to communicate with each other "on the same wave length." Similarly, the technocrats share the same techno-scientific core culture as basis for their meaningful interactions. Thus, each individual's thought, language, reality experience and cultural activity has to be regarded within a social context, be s/he axially oriented or techno-scientifically oriented.

According to Bhattacharya, the American philosopher of pragmatism George Herbert Mead views knowing no longer as "an attribute of an ens rationis," but as "an adverbial attribute of functioning." "From a functional point of view, knowing and not knowing characterizes activity and its being hindered. The paradigmatic use of the word 'know' is in 'knowing or not knowing what to do in a specific context.'"[21]

Our two allegedly independent modes of knowing, the psychological and the epistemological, may thus be regarded as functional. The psychological functions within contexts delimited by the axial core culture; the epistemological within the frame outlined by the techno-scientific core culture. To say that a technocrat functions epistemologically is to say that s/he speaks the core language of fact (as well as one or several marginal ones), that s/he has a core epistemological reality experience (as well as one or several marginal ones), and that s/he engages in a core techno-scientific cultural activity (as well as in one or several marginal ones). Similarly, to assert

that an axiocrat functions psychologically is to assert that s/he speaks the core language of value (as well as one or several marginal ones), that s/he has a core psychological reality experience (as well as one or several marginal ones), and that s/he engages in a core axial cultural activity (as well as in one or several marginal ones).

To function psychologically or to function epistemologically is to function socially, is to function pragmatically. The axiocrat functions pragmatically in a subjective-esthetic/ethical sense; the technocrat functions pragmatically in an objective-cognitive/utilitarian sense. The former lives by and for expression and impression, the latter by and for problem solving.

Disaffiliated from both allegedly independent modes of social functioning, one knows them as flawed. Moreover, both view each other as flawed. However, they do not perceive themselves as defective, or, if they do, they are not eager to correct themselves or do not know how to go about it.

Axiocrats have suggested to technocrats to correct the techno-scientific cultural paradigm so as to account for esthetic and ethical considerations, and technocrats have advised axiocrats to incorporate the "universal" standards of logic into the axial cultural paradigm, yet this has proved itself to be a useless undertaking, for, not only do both sides not really know what the other side is suggesting, since they are talking from within the framework of different core languages, but they also do not seriously question the core

cultural presuppositions which characterize their respective culture paradigm. The starting point for a revision of both cultural paradigms must come, then, from within each paradigm itself and in terms of that paradigm's core cultural language.

Once an axiocrat (or a technocrat) has come to realize that his/her own core culture is defective, and that the split between the psychological and the epistemological is imaginary, s/he will have to share her novel belief with other axiocrats (or technocrats). What s/he will have to do, then, is to introduce his/her deviant belief into the already existing belief structure shared by all axiocrats (or technocrats). What this entails, practically speaking, is that s/he will have to propose revised (axial or techno-scientific) core cultural presuppositions such as I suggested in Chapter 76, to his/her fellow axiocrats (or technocrats). Both types of individuals need to come to question their core and marginal cultures in terms of or compatible with an ecocultural paradigm before they can doubt their core and marginal languages, reality experiences and cultural activities. Once they realize that the syntax and semantics of their respective core and marginal languages incorporate defective core and marginal cultural presuppositions, they will have to reconsider these languages in terms of their common language which is English (French, German, etc.) and which has become "specialized" into core languages and "sub-specialized" into marginal ones. What is needed, then, is that axiocrats (and technocrats) undo their specialized and sub-specialized languages to and analyze and recover their roots in their common English language.

The latter has the potential to be a far more rational language than the core and marginal languages of fact or the core and marginal languages of value. In order to understand why this is so we need to return to Mead's concept of rationality as an adverbial attribute of functioning.

To function rationally (be it psychologically or epistemologically) is to function pragmatically in a social context. This presupposes a communicative ability. According to Mead, thought (by which he understands what I have termed epistemological rationality) "is nothing other than reflexive communication." To communicate reflexively or reciprocally is, in Mead's terms, to engage in "a process of conversing with one's self when the individual takes the attitude of the other, especially when [s/]he takes the common attitude of the whole group, when the symbol [s/]he uses is a common symbol, so that it has a meaning common to the entire group, to everyone who is in it and anyone who might be in it. It is a process of communication with participation in the experience of other people."[22] To communicate reflexively or reciprocally is, in my terms, to participate in the psychological and/or epistemological reality experience of others, i.e., is to function psychologically and/or epistemologically within a social context.

According to Mead to exist socially is to cooperate and to cooperate is to communicate and to communicate is to be capable of reciprocity, i.e., capable of assuming someone else's role. Thought (psychological and/or epistemological rationality), functional as it

is, is not to be regarded solely as a, in Bhattacharya's paraphrasing of Mead, "characteristic of the individual, even though we experience it internally. That is, even though one seems to have private access to one's own thinking and not to that of others without their expressive behavior, it would be a mistake to consider thought to be primary and language as expression of thought. Rather, the reverse is the case. Thought is the internalization of social linguistic activity."[23] As such it is imbedded in a society's language which like reality experience and cultural activity is functional.

To function psychologically or to function epistemologically is to function partially, incompletely; for, to speak the core language of value or the core language of fact is to speak a defective language, to experience psychologically or epistemologically is to experience incompletely, and to engage in axial cultural activities or in techno-scientific cultural activities is to engage oneself one-sidedly.

To function only psychologically is to function less rationally, since an axiocrat who functions psychologically can only take another axiocrat's attitude, can only participate in another axiocrat's reality experience and cultural activity, and can only speak the core language of value. Similarly, to function only epistemologically is to function less rationally, since a technocrat who functions epistemologically can only take another technocrat's attitude, can only participate in another technocrat's reality experience and cultural

activity, and can only speak the core language of fact. Both the technocrat and the axiocrat are thus incomplete or partial individuals; both are strangers to each other because they speak different core languages.

Moreover, technocrats and axiocrats are quite often strangers among themselves as they speak diverging marginal languages, experience diverging marginal realities and engage in diverging marginal cultural activities. Their sub-specialized languages do not lend themselves to communication across the boundaries of specialization and hence present a more complete or balanced rationality from developing. In order that such a complete rationality comes into being, specialized and sub-specialized languages must de-specialize towards the "common denominator" language of English which allows both the axiocrats and the technocrats to communicate "on the same wavelength," first among themselves, then between each other.

We can now understand why the English language has the potential to be more rational than the core and marginal languages of fact and the core and marginal languages of value. In contrast to them it fully allows all individuals to take each other's perspective and hence to function rationally, provided they can come to grips with their illusory bias towards either the epistemological or the psychological.

Mead's functional view of rationality entails that the better a society's members communicate with each other, the more stable that society becomes, and thus leads to an account of the social

disintegration of techno-economic civilization. Harboring over-specialized groups of individuals, speaking over-specialized languages, having over-specialized reality experiences,and engaging in over-specialized cultural activities, techno-economic civilization becomes inevitably that much less rational, that much less functional. But this natural and unavoidable disintegration we can turn into an opportunity to create something better.

As communication between marginal languages breaks down and as, in its wake, Western Mega-Culture starts to crumble, we can have recourse to our common languages (of English, French, German etc.) and develop them into the psycho-epistemological languages I talked about in Chapter 78. Learning these psycho-epistemological, transcendental-involved and integrated languages would be a modus operandi for individuals to competently transcend their individual and cultural split. The more individuals divest themselves from their encapsulation within core and marginal languages of fact (or value), the more they can help in the making of de-specialized and integrated psycho-epistemological languages and, therewith, of de-specialized and integrated psycho-epistemological reality experiences and cultural activities. The more de-specialized and integrated cultural activities an individual can engage in, the more perspectives of others s/he can take, the more reflexively (reciprocally) s/he can communicate, the more rational s/he may be, the more individuated s/he may become, the more complete a person s/he can be, and the more s/he can contribute to a stable, because pluralist, ecoculture.

Techno-economic civilization is disintegrating because it is so fragile and it is so fragile because it is carried by groups of incomplete individuals who are so highly individualized in their specialized cultural activities that they are unable to communicate with other groups of their own core cultural background, let alone of a different core cultural background. An impoverished rationality as well as an unstable culture bespeak this lack of communicative flexibility. As Western Mega-Culture disintegrates we can creatively reorient it towards more diversified, more de-specialized and hence more rational and stable cultural activities which allow individuals to become more communicative, more flexible and hence more individuated. Thus the marriage between the subjective and the objective, i.e., between value and fact, the psychological and the epistemological, ought to allow an individual to be fully at home in many de-specialized realms of inquiry, to have a qualified say in them and hence to have the opportunity to fully participate in the evolution of his/her society, a society which is not run from above by technocratic specialists (be they engineers, politicians, lawyers, etc.), but from below and with the participation of all as competent generalists, i.e., ecocultural persons. With de-specialization comes decentralization and the undoing of the present hierarchies of political, economic and social institutions. Core and marginal psycho-epistemological languages will eliminate the communication barriers between core and marginal languages of fact and core and marginal languages of value. De-specialized reality experiences and cultural activities will enrich every ecocrat's life.

From the point of view of my history of thought, the transitional cultural paradigm and medieval monastic life came closest to what I envision a psycho-epistemological rationality to represent. Both the primeval individual, in virtue of his/her speaking a core language of value, and the transitional individual, in virtue of a still unclear distinction between the psychological and epistemological, could take the standpoint of their respective fellows much more easily, and hence had, in that respect, a capacity to be more rational than those individuals who were affected by and came after the sixth century B.C. split between the psychological and the epistemological.

Assuming that the ontogeny of thought reiterates its phylogeny, a human functions first psychologically, then psychologically and epistemologically in a not too strongly distinct way until s/he comes to stress more or less one side of his/her experiential continuum at the expense of the other and thus undergoes his/her individual cultural split. This individual splitting is strongly conditioned by environmental and educational factors as well as by an individual's choices. Individuals may be said to become habituated into a psychological or epistemological mode of functioning. It follows that they are not irrevocably determined to be either axiocratically or technocratically oriented, but that they can be re-habituated, re-conditioned into a psycho-epistemological mode of functioning, into a de-specialized form of communication.

It should perhaps be pointed out that groups of "de-specialists," i.e., generalists, are not to be confounded with

"think-tanks." In a think-tank specialists try to connect their technical lingo and experience in a systematic attempt to solve a problem; ecocultural groups consist of perhaps former specialists who have stepped out of what used to be their specialized context to join and share with each other in their efforts to function psycho-epistemologically, i.e., to function socially or pragmatically in a psycho-epistemological sense.

Another difference from the technocratic think-tank is this: our transcendental rationality aims not at knowing that, but at knowing how. In contrast to the positivist school which views "knowing that" as fundamental and "knowing how" as derivative,[24] psycho-epistemological knowing is essentially "knowing how" to integrate experience from which "knowing that" can be abstracted (albeit, incompletely), if one wishes to do so. Transcendental rationality does not subscribe to only one way of knowing and only one ultimate truth, but to many ways of knowing psycho-epistemologically how to communicate and how to engage in ecocultural activities.

Ecocommunities would function in psycho-epistemological terms. Problem solving and esthetic/ethical expression would not be allegedly separate activities, but would be fused in one and the same psycho-epistemological functioning. It would be a dynamic and open-ended individuation process contributing to a dynamic and open-ended social evolution. Personal flexibility and thus personal stability would be the cornerstones of ethologically and ecologically diversified and stable ecocommunities.

It is important to stress that de-specialization is not to be understood as encompassing intellectual inquiries only, but also our "non-intellectual" working world, our educational practices, our economic consumption and production pattern, our political responsibility, our sports and leisure. No worker would do one and only one narrowly defined job; teaching would focus on the learning of psycho-epistemological languages; political and social responsibility would be shared by all ecocultural individuals.

De-specialization entails that each specialized individual embark upon an "internal" dialectical process between his/her psychological side and his/her epistemological side, one of which has been severely neglected under the illusion of detachment. With regard to Mead's view of rationality, this "internal" dialectical process is also a public process. It has to be carried out within a de-specialized common language. As more individuals transcend their experiential split towards an experiential One, so the language community they share, i.e., the society they are members of, transcends its social dichotomy towards a well integrated, holistic eco-community. An individual's hitherto psychological or epistemological experiential continuum will be transformed into a psycho-epistemological one. S/he will, then, experience Oneness. If the members of a culture experience Oneness, i.e., are at one with themselves, they will build, accordingly, a culture at one with itself.

To be at one with oneself is to be at one with everybody and everything else, since one is everything else in the sense

that one creates everything else including, for example, one's feelings and one's environment, one's actions and one's beliefs, one's dwellings and one's eating habits. All of a society's cultural activities will be ecologically sound and ethologically sane if they are shaped and handled by an ecocultural paradigm which is characterized by a non-delusive psycho-epistemological core and marginal culture imbedded in the core and marginal psycho-epistemological languages of all the members of that society.

Suppose we want to help to prevent an uncreative disintegration of Western techno-economic society (which may include atomic warfare, cancer epidemics, wholesale ennui and angst as some of its major catalysts) in favor of its creative dissolution towards small-scale ecocultural communities harboring integrated, whole, self-actualizing and individuating persons rather than split, incomplete, self-denying and individualizing individualists. Each Westerner, then, who is not yet ecoculturally active, i.e., who doesn't yet engage in psycho-epistemological cultural activities and who doesn't yet experience psycho-epistemologically (and they constitute most likely the overwhelming majority), has the moral obligation to re-habituate him/herself from split thinking to transcendental thinking.

The truly revolutionary change I envision, namely the one towards a de-specialized ecoculture, will have to be multi-faceted: it will have to encompass economic, political, institutional, socio-psychological, technological, educational and many other changes. While I do not deny that in these areas some progress can be made in

the direction of an ecoculture without the re-making of our core and marginal languages of fact and languages of value into psycho-epistemological languages and thus without the re-making of our epistemological and psychological reality experiences into psycho-epistemological reality experiences, I maintain that such progress is doomed to remain vulnerable as long as it is not backed up by the solid foundation of an ecocultural paradigm characterized by a psycho-epistemological core culture and operationalized by various psycho-epistemological marginal cultures. Without the synthesis of the techno-scientific cultural structure paradigm and the axial cultural paradigm into a transcendental-involved ecocultural paradigm any cultural change would be only pseudo-revolutionary.

In this Part Three I have worked towards clarifying the basis for social change. First, I attempted to provide a clear understanding of the myth of detachment, then I suggested the conditions of adequacy for the transcendental-involved psycho-epistemological synthesis, and finally I elaborated the abstract-theoretical basis as well as the concrete-practical means for social change.

De-specialization for the sake of greater communication and hence greater (psycho-epistemological) rationality is the basis upon which we want to pursue our revolutionary task of construing core and marginal psycho-epistemological languages, reality experiences and cultural activities.

The question to ask now is: how do we, as individuals, know whether our de-specializing leads to the making of transcendental-involved languages, reality experiences and cultural activities which

are psycho-epistemological? Answering this question is elaborating on the standard by which we can confidently let ourselves be guided in our personal and hence social transformation towards our desired goals as sketched under "what there could be" in Part One, Section II. To provide such an answer shall be the purpose of the following Part Four.

# PART FOUR

# THE STANDARD FOR CULTURAL CHANGE

# I. INTRODUCTION

## 81. The Need for Quality

> Just because quantity alone is the decisive factor to-day, the qualitative will soon mean more than ever before.
>
> Keyserling[1]

Now that I have conceptualized the theoretical basis and practical means for personal and social change, we need to keep in mind that what I have been, in great part, concerned with in Parts One and Two was the deteriorating quality of our economic, socio-developmental, ecological and psycho-behavioral life. I maintained that quality had been replaced by quantity in techno-economic civilization and that it ought to be the key phenomenon upon which we need to focus our attention in our attempts to bring about cultural change. What I was calling for, implicitly, was quality as a frame of reference, a standard to guide us in our revolutionary task. In this Part Four I shall render explicit why quality ought and indeed has to be the sole key to personal and cultural change. To this end, I shall sketch a theory of human experience and its place in the cosmos.

In the next chapter I will introduce a distinction between the process and the content of human reality experience both of which are qualitative. I will lay out what I mean by low or high impure quality x-experiences as well as pure Quality x-experiences. I will

come to regard pure Quality x-experience as the sole cognitive and the best practical principle in our self-actualization efforts towards transcendentally rational ecocommunitarian persons.

To place human experience within a cosmological context and thus to provide the metaphysical backdrop for my view that quality should be our revolutionary standard, that shall be the purpose of the last chapter of this Part Four. In that chapter I shall briefly review the evolution of the traditional dualistic ontology of the universe and human reality experience with regard to my history of Western thought. Then I shall come to view human experiential continua as evolutionary extensions of the overall purposive evolution of the One, which is Formless Potential actualizing itself in as or via matter, life and thought. All this will lead us to understand why pure Quality x-experiences are the crucial standard in the making of ecocrats and ecocultures.

## II. THE STANDARD OF QUALITY

### 82. Quality: The Guiding Principle

> We will seek . . . the right quantity of the right quality at the right time and the right place for the right purpose.
>
> Lewis Mumford[1]

What is the standard which guides us in the making of de-specialized psycho-epistemological languages and hence of psycho-epistemological reality experiences and cultural activities?

Let me begin to answer this question by focusing on the distinction between the quality or qualities *in* our reality experience and the quality *of* our reality experience, which is a distinction between the *content* of our reality experience and the *process* of our reality experience.

From now on I shall designate the *content* of a reality experience as "x." Let me focus for a while on x, i.e., on the quality *in* our reality experience. X can be anything we ever experience: pain, love, fear, joy, hate, respect, disdain, an orgasm, a tree, a city, a friend, walking, singing, writing, a vision, an insight, an algebraic formula, a statistical equation, a poetic metaphor, a logical or illogical argument, an ethical principle, sound, colors, spatial configurations, speed, etc. With regard to my history of thought and from within a frame of mind which fancies itself to be

either psychological or epistemological, but not both at the same time, I can distinguish between two kinds of reality experience: a reality experience the content of which is subjective-esthetic/ethical-phenomenal and a reality experience the content of which is objective-cognitive-formal. I shall call the former a psychological x-experience and the latter an epistemological x-experience. Moreover, according to my history of thought, epistemological x-experiences evolved out of psychological x-experiences with which they are evolutionarily and inseparably linked. Phrased differently: some psychological qualities in our reality experience have evolved into epistemological qualities which remain nevertheless ultimately psychological.

Now: I have argued that techno-economic civilization is biased in no uncertain terms toward the quantitative. As we shall see there are reasons to believe that all psychological x-experiences are thought (by epistemological minds) to be ultimately quantifiable. Since, according to me, we ought to be trying to defend quality against the contemporary quantomania, let me digress a little to argue that among the vast majority of psychological x-experiences only a few lend themselves to being object-ified or form-alized or quantified. If we replace x by love, joy, friend or vision, we will notice that these qualities cannot be quantified. Neither can the qualities "warm" or "cold" in their metaphoric-emotional sense or the quality "space" in its psycho-spiritual sense. However, in their physical sense a warm-experience, cold-experience or space-experience (all three psychological x-experiences) can be quantified

(become epistemological x-experiences). For this to happen we need to change our language, if, according to Carnap, "by language we mean a system of concepts."[2] In my view, if we change our conceptualization of an x-experience, say a warm-experience, i.e., if we change the linguistic cladding of that warm-experience, we change our warm-experience.

We can, according to Carnap, change the "classificatory concept" "warm" into a "comparative concept" "warmer" or "less warm" and then into a "quantitative concept" "degree Celsius." In my parlance I would say that we can switch from a language of value via, let's call it, a language of comparison, to a language of (quantitative) fact. Carnap's method of quantification leads from "classificatory concepts" which one can define by whatever specific conditions one pleases to choose over "comparative concepts" which "are bound by a logical structure of relations" to "quantitative concepts" each one of which "has a corresponding pair of comparative concepts, which, in the development of a field of science, usually serve as a first step towards the quantitative."[3]

I may suppose that, ideally, logical positivists would like to extend Carnap's quantifying procedure to all psychological x-experiences, and to twist each one into the logical straightjacket of a scientific field of inquiry. Writes Carnap: "We should never underestimate the usefulness of comparative concepts, especially in fields in which the scientific method and quantitative concepts have <u>not yet</u> been developed. Psychology is using quantitative concepts

more and more, but there are still large areas of psychology in which only comparative concepts can be applied. Anthropology has almost no quantitative concepts. It deals mostly with classificatory concepts and is much in need of empirical criteria with which to develop useful comparative concepts. In such fields, it is important to develop such concepts, which are much more powerful than the classificatory, even though it is not yet possible to make quantitative measurements."[4]

Note the "not yet." It expresses the logical positivists' hope that, one day, the quantification, the "epistemologification" of all psychological x-experiences, will become a fait accompli.

However, so I maintain, their wishful thinking will not materialize. For, first, there are psychological x-experiences such as, for example, pain, which, while they could conceivably be "comparatively conceptualized," would not lend themselves to be quantified because, while the one who experiences pain can "subjectively" distinguish between more or less pain, s/he cannot "objectively" quantify the difference in terms of, say, "pain units." This is so because an individual has no basis at all for comparing his/her pain experience to somebody else's; it is not publically verifiable, repeatable or intersubjectively agreeable, all necessary conditions for its "objective" quantification. Second, there are psychological x-experiences such as, for example, visions, which, unique in their own right, defy even a comparative conceptualization, let alone a quantitative one.

Moreover, I disagree with Carnap when he writes that "the difference between qualitative and quantitative is not a difference in nature . . . but a difference between languages,"[5] implying not only that there is a nature, i.e., an Out-There, independent of our conceptualization of it, but also that that nature is one and the same whether we conceptualize it qualitatively or quantitatively. In my view, we cannot know an Out-There independent of us; nor do I accept the notion that there is one and only one Out-There. On the contrary I hold that humans linguistically create their reality experience and that, if they create Out-Theres, the latter are a function (in part at least) of the languages which create them. We can use the language of value to express that it is cold and we will have a cold-experience, which is a psychological x-experience; but when we use the language of fact to express that it is 0°Celsius we will not have a cold-experience when we utter or think the thought that it is 0°Celsius, even if we walk in the cold. If we walk in the cold and have a cold-experience then we are using the language of value. Moreover, if we sit in a warm room and imagine it to be cold, we are still using the language of value which allows us a psychological x-experience where x is"imagining it to be cold." So much for the digression.

Because we have developed two different core languages (one of fact and one of value) we delude ourselves into experiencing two purportedly independent x-experiences, e.g., a psychological cold-experience and an epistemological 0°Celsius-experience. If we were

not experientially split, but experientially one, we would have neither a (psychological) cold-experience nor an (epistemological) 0°Celsius-experience, but a psycho-epistemological x-experience, where x would be an expression of the psycho-epistemological language shaping, expressing or handling the psycho-epistemological x-experience.

So far I discussed only one dimension of our reality experience: its content. But there is a second dimension to it: its process. When we inquire into the process of experience or experience as process we inquire into the quality of experience. The quality of experience may be regarded as the quality of experience as content, i.e., of the quality in experience. Examining experience as process thus means scrutinizing the quality of qualities or a meta-quality, so to speak.

In order to convince ourselves that it is not so odd at all to talk about the quality of qualities in experience and in order to exemplify the distinction (in reason, i.e., without separation,) between experience as content and experience as process, let us face ourselves in our daily reality experience. Presume we experience a sunrise, a discussion with a friend, love or anger. The sunrise, the discussion with a friend, the love or the anger are the content, i.e., the qualities in our experience. Now, we know from personal experience that the quality of each one of these reality experiences is not always the same. Today we may have a good sunrise-experience, tomorrow a bad one. Moreover, today's sunrise-experience

may start out to be a good one and then gradually become a bad one. Similarly, we may have a good discussion with a friend and a bad discussion with a friend or we may start with a bad love-experience which gradually turns to be a good one; and, yes, we may even have a good anger-experience, leaving us refreshed and relieved after a divine explosion, and a bad anger-experience, a petty and lasting one which renders us morose.

What varies, in these cases, is not so much the content as the quality of a reality experience. The same holds true when, in contrast to the aforementioned examples, we consider more "epistemological" x-experiences, such as having a good or a bad "understanding-a-logical-connection"-experience.

Now: what do I mean when I say that an individual has a "good" or "bad" x-experience? "Good" or "bad" are to be understood in an esthetic sense. Whatever the content of an x-experience, there is always a certain "feel" "going with it," "attached to it," or "surrounding it." That "feel" is <u>not</u> a "feeling" like pain or an emotion like joy; "feelings" or emotions are contents of experience. In contrast, the esthetic feel stands for the quality <u>of</u> an x-experience. It may be regarded as a diffused feel which pervades the totality of the reality experience at the present moment.[6] That esthetic feel or <u>feel of Quality</u> (in the next chapter we shall see why I spell it with a capitalized Q) cannot be categorized as psychological or epistemological. The feel of quality is therefore not definable, not explainable scientifically. It can only be

allegorically described, or metaphorically alluded to. While what I would call a psychological x-experience is an esthetic x-experience, it is not to be confounded with the esthetic feel of reality experience, i.e., with the feel of Quality of reality experience. To each esthetic x-experience as to each cognitive x-experience there is also a feel of Quality, a feel of the process of experience.

The content of a reality experience may be what hitherto I considered subjective-esthetic/ethical-phenomenal or objective-cognitive-formal, but in both cases, the process of the x-experience has a certain feel to it. This is why perhaps it is misleading to speak, as I did just a while ago, of a certain feel "going with," "attached to" or "surrounding" an x-experience. Rather, we might speak of a certain feel the x-experience is of to indicate that the process of an experience is of a "certain" character, has a certain feel of Quality.

The process of an experience may be of a good feel of Quality or it may be of a bad feel of Quality; in the former case an individual may be said to have a high Quality x-experience; in the latter, to have a low Quality x-experience. I have now switched from a rather esthetic "good-bad" terminology to a "low-high" terminology, which suggests a quantitative scaling in terms of degrees. When we have a low or a high Quality x-experience, however, we do not experience a quantitative difference in the process of the experience; rather we experience a qualitative difference in the process of the experience and since that process has a "certain" feel of Quality to it,

we experience a qualitative difference in that "certain" feel of Quality. A high Quality x-experience and a low Quality x-experience then, are qualitatively different and as such they can be qualitatively, but not quantitatively compared, and hence a quantification à la Carnap is excluded.

What then is the nature of experience on my view? If the Quality of an x-experience can vary, does this not imply that there is a nature to an x-experience, a nature in the sense of a stable, fixed or immutable essence. Indeed not! The nature of all x-experiences and therewith of the human experiential continuum is not static, but in flux. The Quality of x-experiences is flowing; the flowing of x-experience after x-experience constitutes an individual's experiential continuum. An individual's experiential continuum is, as its name says it, a continuous process of experiencing, a process which, from moment to moment and in varying degrees of congruency, integrates each new x-experience. And this is why the Quality of an x-experience can be variable; as the x-experience becomes a part of the experiential continuum, it can fit well into the experiential flow or it can fit badly into the experiential flow. When an x-experience fits well into an individual's expanding experiential continuum, i.e., when an x-experience is at one with the latter, an individual may have a high Quality x-experience; when it does not fit well into an individual's expanding continuum, i.e., when it is at odds with the latter, an individual may have a low Quality x-experience.

What is important to stress is that a "good fit" of an x-experience into an individual's experiential continuum, while necessary, is not sufficient for having a high Quality x-experience. For, were it so, the x-experiences of what we would usually call a disintegrating personality, and which are conceivably well-fitting or consistent with this personality's overall experiential continuum, would have to be called high Quality x-experiences. Yet we would expect the disintegrating personality to have low Quality x-experiences. Furthermore, we would regard his/her experiential continuum as devolving, rather than as evolving or expanding.

We can see now that the notions of "high Quality x-experience" and "low Quality x-experience" need to be relativized. For example, "epistemological" x-experiences, may very well fit into an individual's expanding and allegedly independent epistemological experiential continuum, but they, nevertheless, may have to remain relatively low because the individual's epistemological experiential continuum is incomplete and split apart from his/her psychological experiential continuum. Similarly, "psychological" x-experiences will have to remain relatively low Quality x-experiences, no matter how consistent they are with an individual's psychological experiential continuum, in virtue of the latter's incompleteness and delusory apartness from that individual's epistemological experiential continuum. Yet, relative to epistemological (psychological) x-experiences which fit badly into an individual's epistemological (psychological) continuum, these "low" Quality x-experiences are

"high" Quality experiences. With regard to the allegedly independent psychological and epistemological experiential continua, having an x-experience which fits well into one's experiential continuum means having a relatively high, yet still impure Quality x-experience.

What, then, are the necessary conditions, so that having an x-experience which fits well into one's experiential continuum means also having an absolutely high or pure Quality x-experience. The necessary conditions, so I suggest, are (1) that one's experiential continuum is a psycho-epistemological one, i.e., that one experiences psycho-epistemologically rather than psychologically or epistemologically, (this, one can achieve by speaking de-specialized languages incorporating the transcendental-involved ecocultural paradigm), and (2) that one's x-experience is well integrated into one's psycho-epistemological experiential continuum.

When these two conditions are fulfilled in individuals then they are at one with themselves, then they are self-actualizing as fully, rather than partially, growing persons, then they are guided by pure Quality x-experiences, then they are on the right track concerning their socio-revolutionary task. Thus, the feel of Quality is the basic standard for the creative disintegration of techno-economic civilization. Pure Quality x-experiences will serve as indicators in one's efforts to transcend the illusory split between one's psychological and epistemological reality experience. Having pure Quality x-experiences is experiencing psycho-epistemologically, is flowing along in the Quality-flow which one's psycho-epistemological experiential continuum is.

So far, so good. But how do we know when we have pure Quality x-experiences (rather than impure high Quality x-experiences), so that we know that we have transcended our experiential split and that we are experientially at one with ourselves? This question may be answered with a counter-question. If we determine the parameter which tells us when we are having a pure Quality x-experience, how will we know that we are confronted with that parameter which tells us when we are having a pure Quality x-experience, i.e., by what parameter will we know the parameter by which we know of having a pure Quality x-experience? We can theoretically push our search for an ultimate standard ad infinitum. Practically, however, our standard is the pure Quality x-experience itself. When you have it, you know it, and you know it neither epistemologically (objectively cognitively-formally) nor psychologically (subjectively-esthetically-phenomenally), but psycho-epistemologically. In the next chapter I will provide a metaphysical interpretation which will clarify this statement. Suffice it to point out for now that pure Quality x-experiences are not only the sole cognitive standard we have for knowing that we are experientially one, but also the best practical guiding principle in our self-realization process.

In order to transcend our experiential split we have to de-specialize ourselves. As we come to construe psycho-epistemological languages, we come to construe our psycho-epistemological continuum. As our nascent psycho-epistemological languages start shaping new psycho-epistemological x-experiences purified of the myth of detachment and as the latter become well-integrated into our

psycho-epistemological continuum, we will have pure Quality, i.e., psycho-epistemological, x-experiences. If we don't, we are doing something wrong. We will have to improve our constructive endeavors, our communicative abilities, our de-specialized rationality until our core and marginal transcendental languages bestow upon us the pure Quality x-experiences which constitute our guiding principle in the making of our ecocultures.

According to this approach, the means for social change consists of individuals undertaking to have pure Quality x-experiences, of their flowing along in the Quality-becoming which is their psycho-epistemological experiential continuum, of their self-actualizing towards fully individuated persons bestowed with a highly integrated rationality amidst a psycho-epistemologically pluralistic eco-community.

However, humans do not self-actualize in a vacuum. How is their self-overcoming related to the cosmos? To this question I shall now turn.

## 83. The Metaphysics of Quality

> The impulse to self-transformation . . . may have its origins in the whole self-constituting cosmic process that built up the elements; for the farther back one pushes the tendency toward self-transformation, the more basic it seems--and the more utterly unexplainable, except in mythical terms that derive from conscious human purpose.
>
> Lewis Mumford[7]

> The mythos that says the forms of the world are real but the Quality of this world is unreal, that is insane!
>
> Robert M. Pirsig[8]

So far I have come to differentiate between the quality in experience and the quality of experience, i.e., between the content of experience (or experience as content) and the process of experience (or experience as process). Pure quality x-experiences (transcendental or psycho-epistemological x-experiences) constitute the standard by which we know that we are at one not only with ourselves, but also with our social and natural environment. Having pure Quality x-experiences entails, according to my theory, that we are speaking one out of many de-specialized languages incorporating the ecocultural paradigm, that we have reached a high degree of communication with our fellow humans, and that transcendental rationality permits us to self-actualize, i.e., to individuate within an ecocommunity.

My view of human experience rests on my rejection of the illusion of the separateness of psychological and epistemological reality

experience. Since Descartes this illusion has presupposed, in the Western metaphysical tradition, an absolute distinction between a natural world and human experience. Since I also disclaim the latter distinction I am obliged to offer a new metaphysics which matches up with my ontological interpretation of human experience as psycho-epistemological. This is why I shall now undertake to account for the nature of the universe in the context of which it makes sense to view the quality of human experience as the standard of human socio-revolutionary conduct.

What, indeed, is the ontology that lies behind the phrase, "the quality of experience"? Let me, first, delineate the salient events in the evolution of the traditional ontology of the universe and experience. This in order to provide a contrast to my view of human experience.

The primeval cultural paradigm allowed only for psychological experiences, i.e., experiences the content of which was subjective-esthetic-phenomenal. The primeval humans knew how to deal with what they symbolized. What they didn't symbolize, they could only deal with via their animal instincts, via their biological selves. What characterized primeval humans was the detachment of their symbolic experience from their non-symbolic (or animal) experience.

With the transitional cultural paradigm parts of the content of the experience of transitional humans became projected or externalized, i.e., they became reified in such a way as to take on the appearance of being outside experience. In addition to knowing how

to deal with what they had symbolized, transitional humans began to imagine themselves as detached from parts of the symbolized content of their experience, which had become more or less psycho-epistemological. During the transitional period the detachment of human experience from parts of its content was not explicitly avowed yet. This remained true even in the sixth century B.C., when the metaphysical distinction between a natural environment (a physical universe) and human experience came to the fore. The early Greek philosophies and the nascent axial religions were not quite able yet to conceptually handle the metaphysical split between those parts of the content of human experience which had become so reified that they were deemed outside human experience and those parts which were viewed as inside human experience. Nevertheless, the imagined metaphysical detachment of human experience from parts of its content gave birth to epistemological reality experience which, with Descartes, came to be regarded as experientially detached from psychological reality experience.

Descartes, indeed, rendered explicit the (symbolized) nature-(symbolic) human experience distinction. For him, both the epistemological and the psychological reality experience, which had developed side by side ever since the sixth century metaphysical split between a natural environment and human experience, are encapsulated in a mind or thinking substance which is of a different kind from what is outside of the mind or thought. What is outside the mind, namely the physical (organic/inorganic) universe, is, according to Descartes,

only accessible via what we would call an epistemological mode of thought, while, according to my history of thought, that universe is the reification product of thought, the content of our epistemological reality experience. For Descartes and the contemporary adherents of classic-theoretic rationality this is not so. For them, there is a clear-cut metaphysical distinction between human experience and a physical Out-There which is outside of experience and from which the latter is metaphysically detached. This metaphysical distinction underlies the experiential distinction between psychological and epistemological reality experience; both kinds of experience they regard as metaphysically detached from the physical world "out-there," and as experientially detached from each other, i.e., as experientially split.

Now: as I mentioned in the beginning of the chapter, I reject the human experiential split as delusive. If the experiential split is delusive, it is very likely that what it presupposes, namely the metaphysical split, is illusory, too. This conclusion is congruent with my view that thought (or mind) and the physical (inorganic/organic) are not separate and diametrically opposed, but rather evolutionarily and inseparably linked, just as much as psychological and epistemological reality experience are evolutionarily and inseparably linked.

Let me elaborate: the transcendental-involved ecocultural paradigm I envision will be characterized by psycho-epistemological core and marginal cultural presuppositions incorporated in

psycho-epistemological core and marginal languages shaping psycho-epistemological core and marginal cultural activities and reality experiences. As we develop our psycho-epistemological experiential continuum we develop an experiential continuum which is evolutionarily and inseparably linked with a non-human experiential continuum namely the evolutionary continuum of matter evolving from its inorganic to its organic manifestation. Thought (or mind), i.e., human symbolic reality experience, is the supra-organic manifestation of that same evolutionary continuum. The human experiential continuum is the evolutionary extension of a much larger experiential continuum, namely, that of the totality of what is and becomes, and which I shall henceforth call the One.

Now: what is this One? What are its characteristics? I shall identify three major traits and argue for them.

One salient characteristic of the One is its purposiveness. How can I maintain that the One is purposive, especially in the face of a mechanical worldview which holds that evolution and natural selection "just happen," i.e., that they are not goal-oriented?

Recall Mumford's argument (as presented in Chapter 58) that a machine model incorporates "teleology or finalism in its classic form: a purposeful organization for a strictly predetermined end." If we apply the machine model to the One, i.e., if we view the totality of what is and becomes as contrived by an inventor to achieve clearly delimited ends, then we must admit that the One is purposive, goal-oriented. However, to view the One as mechanistic is not to explain it, but to characterize it. According to Mumford,

it is the mechanism itself that needs to be explained. Whether we accept or don't accept a mechanical view of the One, we must come to grips with the One's purposiveness. For, even if we reject the One's "mechanical purposiveness," we still can infer the One's purposiveness from the purposiveness of human reality experience. Since I do not regard the One as a purposive mechanical gimmick contrived by an inventor to fulfill a predetermined end, I need first to establish the One's purposiveness from a different angle and then to explain it, at least on metaphysical grounds.

There is a dimension of purposiveness to human rationality, reality experience and cultural activity, be it allegedly psychological, allegedly epistemological or transcendental. Indeed, the whole evolution of human experiential reality may be said to be purposive. Its purposiveness may be regarded to have become disoriented and incomplete with the advent of the experiential split. To fulfill the purposiveness of human experience (and thus of rationality and cultural activity) requires a smooth integration of the human (psycho-epistemological) experiential continuum with the overall experiential continuum of the One of which it is a part and which is purposive, too.

That the One is purposive I infer from the fact that human experience is continuous with matter and life. Since human experience has evolved out of the organic which in turn has evolved out of the inorganic and since this evolution has been continuous, I am lead to assume that, if human experience is purposive, so must be the

organic and the inorganic. For, "continuous evolution" implies that there are no traits in what has evolved which aren't in some sense involved in what it has evolved out of. Thus the One is to be regarded as purposive.

But in contrast to a mechanical interpretation of the One's purposiveness according to which the One is contrived by an inventor to fulfill an end pre-determined by that inventor, I simply regard the One as eternal, i.e., as having no beginning and no end (in a temporal sense), and hence as in no need of a creator/inventor to set it off at some point in time. To me, the One purposes its own end (in a teleological sense), i.e., it is self-fulfilling. The One's evolutionary purpose is to experience itself as what it is, i.e., to experience reflexively. This purpose manifests itself in the One's evolution from the inorganic over the organic to the supra-organic, three aspects of the overall experiential continuum of the One.

To speak of the experiential continuum of the One is to suggest that the inorganic, the organic and the supra-organic are forms of experience. That the supra-organic is a form of experience, namely a symbolic one, I have taken for granted. Thought, as symbolic experience, differentiates humanity from those life-forms, which, like it, are organic, but do not experience symbolically. In general, non-human life-forms may be said to be forms of organic experiences. This we should be able to accept easily. It will be more difficult for us to get used to the notion that the inorganic is a form of experience.

However, once we accept the notion that all experience is absolutely reflexive in the sense that the One is the universal

subject of all experience, and once we regard thought as the One's supra-organic experience of itself, we also have to view thought's evolutionary precedents, namely life (the organic) and matter (the inorganic), as the One's experiences of itself. The assertion that there is no subject of experience outside the One, i.e., that there is no human subject which experiences, allows us to dispense with the notion of human experience as a two-term relation between an experiencing subject and an experienced object, a notion which has been underlying Western philosophy implicitly ever since the sixth century B.C., and explicitly ever since Descartes.

There is only one universal subject of experience, the One. The One manifests itself as an experiential continuum, which is a purposive evolution of its experiencing itself under three aspects: the inorganic, the organic and the supraorganic. Matter, life and thought are three evolutionarily and inseparably linked forms of experience of the One as well as three forms of its purposiveness.

The One's supra-organic experience of itself (and hence what I may call its supra-organic purposiveness) evolved first as psychological reality experience (purposiveness), then became more or less psycho-epistemological before it split into a psychological and epistemological reality experience (purposiveness), both of which, separately and incompletely, continued supra-organic evolution. To overcome this incompletion, i.e., to reintegrate the psychological and epistemological experiential (purposive) continuum into a psycho-epistemological experiential (purposive) continuum, that shall be our

socio-revolutionary task the realization of which is nothing but the One's overcoming itself towards completion, towards perfection.

Before I can expound on this, I need to turn my attention to a metaphysical explanation of the One's purposiveness. So far I have only established that the One experiences itself in, as or via a purposive experiential continuum. What I need to account for now is why the One purposes its own end, i.e., why it is self-fulfilling. This brings me to a second characteristic of the One.

The One has Formless Potential. A potential is a potential for something. A potential's "for-ness" is its purposiveness. The One has the potential for self-actualization, i.e., the One has the potential to manifest itself or to "lighten up" to itself as what it is. This is why the One may be regarded to purpose itself. As potential for self-actualization, the One can't but purpose its own end, i.e., it can't but fulfill itself.

A potential actualizes itself when it goes from its non-actualized to its actualized state. This self-actualization process is gradual in that it goes from a less perfect over a more perfect to a perfect "state" of self-actualization. In this self-actualization process the potential gradually manifests itself or lightens up to itself in, as or via something. In the case of the One that something is the form. The One lights up to itself in, as or via an inorganic, organic and supra-organic form, i.e., the One self-actualizes or manifests itself in, as or via matter, life and thought. In this lightening-up-process the One gradually perfects itself, perfects its experience of itself. As the One gradually comes to

experience itself inorganically, then organically and supra-organically, it comes to actualize itself more fully as what it is until it has completed its purposiveness, until it has fulfilled itself, until it lightens up to itself perfectly as what it is. This brings me to the third characteristic of the One: its "essence."

What indeed does the One consist of? If the One is the totality of what is and becomes, what is and becomes?

What is and becomes is matter, life and thought. But once more: what is matter, life and thought, i.e., what is and becomes? What is and what becomes is a formless Potential which is neither a material nor a mental substance but a metaphysical entity. This Formless Potential, this metaphysical entity purposes to actualize itself as what it is, namely Quality. The "ontic stuff" the One consists of is Quality. What reason do I have to assert this?

Since human reality experience is, as we saw in the previous chapter, a process of quality becoming and since, when humans experience, it is the One which experiences itself symbolically, the One has to be a process of quality becoming also.

Now that we have seen why the purposive Formless Potential is Quality, we also see why, when the One actualizes itself, what it brings about is Quality. That is its purpose. For, to say that the One is Quality is to say that it is a Formless Potential for Quality, that it is a purposing of Quality! And that the various forms in, as or via which it manifests itself are realizations of Quality.

The inorganic is a form of Quality; so are the organic and the supra-organic. The experiential continuum of the One is a Quality-flow, a Quality-becoming, an evolutionary process in, as or via which the One experiences itself gradually more perfectly as what it is, namely Quality. The evolution of Quality is the evolution from the inorganic over the organic to the supra-organic. When the One experiences itself inorganically it experiences itself rather imperfectly as Quality. When living organisms experience, it is the One which experiences itself organically, and thus more perfectly than when it experiences itself inorganically, as Quality. The One experiences itself still more perfectly when it experiences itself supra-organically. This is the case when humans experience themselves, i.e., when humans experience symbolically no matter what the content of their experiences. Thus, I may say that matter, life and thought are, ontologically speaking, Quality becoming.

In humans as animal organisms the One lights up to itself organically; in humans as thinking, i.e., symbolic, individuals endowed with language, the One manifests itself culturally. The "ontic stuff" human experience is "made" of, is Quality, i.e., the nature of human experience is quality becoming. This is why we can speak of the quality of human experience; this is why we can speak of high, low or pure quality human experiences. Thus, our metaphysics of Quality accounts for the fact that human experience as process has a certain "feel of Quality." This "feel of Quality" we may take as, so to speak, <u>ontological envidence</u> that the One is Quality, is a Quality flow, is Quality becoming.

If the process of human experience is Quality becoming, what is its content? Quality becoming, too! For, when I speak of the process of human experience as having a certain "feel of Quality" I mean that x-experiences, i.e., contents of experience, are more or less integrated into an experiential continuum which is a quality becoming. If there is a "bad" or "low" feel of Quality to a human experiential continuum,the latter may be regarded as a de-volving Quality process, a poor or degenerate Quality becoming. A low feel of Quality (as well as a high feel of Quality) may also be characteristic of an incompletely evolving experiential continuum, such as the epistemological or psychological one, both of which may be regarded as a defective process of experience, as a disoriented Quality becoming, which only partially extends the overall purposive evolution of Quality, i.e., the One's self-actualization process.

With this in mind we can now understand why, when the content of an experience fits well into a psycho-epistemological experiential continuum, i.e., a Quality process, we have pure Quality x-experiences. For, when an x-experience is integrated into a psycho-epistemological experiential continuum, it is integrated into a complete and balanced process of experience, into a symbolic (cultural) Quality becoming which smoothly and completely extends the overall purposive evolution of Quality. When humans have pure Quality x-experiences, the One lights up to itself perfectly as what it is, namely Quality. It is then and only then that the One has completely actualized its Formless Potential, that the One experiences itself purely. It is

then and only then that we humans may be said to be in harmony with what is and becomes, with the universal Quality flow, with the ultimate purpose of Quality becoming. This is why pure Quality experiences are the best practical standard to tell us that we are experiencing psycho-epistemologically, i.e., that we are transcendentally rational, i.e., that we are flowing along smoothly and completely integrated with the evolution of Quality.

There is a paradox to be considered here briefly: when we humans experience matter-forms or life-forms, in short, when we experience a physical Out-There, then that content of our experience is, according to my theory of the evolution of thought, an externalized reification of our experience, but does not exist outside of our experience. And yet, matter and life were, from the vantage point of my metaphysics of Quality, evolutionarily prior to thought. This apparent paradox resolves itself when we consider that there can be no content outside of our experience, since, when we experience something as outside and independent of our experience, the One experiences itself; and the One always experiences itself and nothing but itself and nothing outside of itself. When we fancy ourselves to experience a physical/organic world outside and independent of our experience, the One experiences itself symbolically as inorganic and organic. While from the point of view of human experience there <u>appears</u> to be a world outside and independent of our experience, that world is inside the One's experience of itself. For, there is no human subject of experience, but only the One which is the universal and self-reflexive subject of experience.

The evolution of Quality is the One's progress from rather incompletely experiencing itself inorganically over more completely experiencing itself organically as inorganic and/or organic to still more perfectly experiencing itself symbolically as inorganic, organic, and/or symbolic. Thus, human experience be it psychological, epistemological or psycho-epistemological, is the One's experience of itself. When humans experience psychologically or epistemologically, the One, while it experiences itself more completely than when it experiences itself inorganically or organically, nevertheless still experiences itself symbolically less perfectly than when humans experience themselves psycho-epistemologically, in which case humans have pure Quality x-experiences which is to say that the One experiences itself perfectly.

When humans have pure Quality x-experiences, they know it and they know it psycho-epistemologically. This is what I maintained without any further elaboration in the previous chapter. Backed up by my metaphysics of Quality we can now more clearly grasp the meaning of that statement. "Simply knowing" that one has a pure Quality x-experience is being "at one" with the One, is being ontologically responsive to and expressive of the cosmic evolution of Quality. Such a knowledge, such an experience cannot be captured by language. It can only manifest itself as excellence in the personal, i.e., social, conduct of the one who experiences psycho-epistemologically. Excellence in cultural attitude and activity is the identification badge of the ecocrat who holds truth not "as the

property of a proposition, but of the person."[9] In fact, ecocrats live their truth which is cosmic truth which is eternal Quality becoming. Ecocrats fully self-actualize as harmoniously integrated evolutionary expressions of the One; so do ecocultures.

De-specializing, construing transcendental languages and thus shaping psycho-epistemological reality experiences and cultural activities: all these purpose to channel the One's self-actualization process towards self-perfection. The One's self-realization process towards self-perfection is humanity's self-becoming towards self-fulfillment. Human self-actualization is open-ended as long as it is psycho-epistemological. While an end-in-view during the self-actualization process, self-fulfillment, when reached, is not a dead end of experiential stagnation, but a perpetually flowing kaleidoscopic experiential awareness which translates itself in multi-facetted cultural activities.

Psychologically or epistemologically "self"-actualizing individuals can't but actualize themselves into a dead-end. Witness the emotional inertia of hard-core scientists, of disillusioned professional specialists, of soft-headed romantic desperados as they troop out to champion or to rail against techno-economic civilization. Ponder about the all pervasive loneliness, alienation and anxiety among the ranks of a despondent homo techno-economicus. Behold the repressive authority of technocratic single-vision over the wisdom of the heart. Stare aghast at the battle of the sexes. Do they not bespeak the human experiential split? Do they not evidence an evolution of Quality gone haywire?

Rhetorical as they are, these questions can inspire us to transcend the experiential gap residing within almost all of us megacitizens. We know that we need to individually and socially change our languages, our reality experience,our cultural activities. We have an idea of what there could be as to our economic, socio-developmental, ecological and psycho-behavioral affairs. We not only conceptualized the theoretical basis and practical means for personal and social change; we also familiarized ourselves with the experiential standard which is to chart our revolutionary endeavors. We now ought to be well booted and spurred to tackle the program for a future ecological humanism.

# EPILOGUE

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## 84. Pointing the Way

> We have a daunting agenda ahead of us, one that is bound to leave us with many unresolved philosophical issues.
>
> Theodore Roszak[1]

In Part One and under what "there ought to be," I have rather exhaustively intimated what the program for a revolutionary personal and sociocultural change will have to look like. In the following I shall therefore only sketch in the most general and inexhaustive terms the program of what we usually call subject areas, fields of investigations, domains of learning or specialities. We will have to keep in mind that with the making of an ecoculture the boundaries between subject areas will be effaced by de-specialized psycho-epistemological languages. Thus, the as of now, still extant artificial categorizations of our cultural activities into physics, architecture, psychology, poetry, economics, philosophy, art, engineering, etc., including their subcategorizations and sub-subcategorizations will eventually have to disappear.

Let me begin by outlining the program for what is perhaps the most crucial of all human cultural activities, an activity which underlies all other activities: education.

Environmental Education

All education shall be environmental, i.e., shall "educe" (evoke, elicit) a person's creativity in such a way as to "educe" (lead out, guide out) that person into ecocultural reality experiences and cultural activities. All education, be it more libertarian or more affective, within or without walls, shall be broad; the broader the better, the greater the likelihood for pure Quality experiences. All forms of authoritarian instruction for the sake of religious and secular institutions shall be creatively disintegrated into ecocratic living/learning experiences induced by voluntary and undiscriminating associations between humans, no matter what their age, sex or race. Ecocratic excellence within a cooperative setting shall be the goal of a person's and an ecocommunity's self-actualization process. Knowing how to be serene, loving, empathic and convivial shall be the landmarks of the new transcendental rationality, which cannot be inculcated, but which can be nurtured during the transformation of alienated individualists into individuated persons. The environmental education I envision shall not fill the occupational niches of a techno-economic civilization with single-visionary experts; rather, it shall foster a metaphysical reverence of Quality which shall efface monolithic thought processes for the benefit of a humanity in dire need of expressing itself holistically within highly diversified and thus stable ecocultures.

## Humanistic Ecology

Scientific ecology, which focuses on quantifying the interrelation between interdependent components of an ecosystem, is ultimately reductionist and based on the illusion of detachment, and hence shall be gradually replaced by a humanistic ecology which encompasses a metaphysical as well as a mystical and affective dimension in its view of the universe as a purposeful Quality-becoming. A humanistic ecology shall be predicated upon the premise that the personal, cultural and universal self-actualization process are one and the same thing. It shall foster a holistic materiaphilic, biophilic and mentiphilic sociocultural conduct and shall be the foundation of ecocultures. It shall be at once an art, a science, a religion and a mythology for psycho-epistemological living.

## Natural Sciences

Natural sciences shall have to distance themselves from the mechanistic-reductionist world picture. They shall have to be integrated with social, religious and philosophical considerations and become artful interpretations and explanations of our reality experiences. They shall create many worlds which perfectly reflect the One. They shall become psycho-epistemological undertakings designed to serve ecotechnological anarcho-communitarian societies as well as to enlighten humanity.

The theory of evolution shall have to be reworked in the light of our metaphysics of Quality. The theory of natural

selection which is based on the notion of survival value and which views all life-forms as survival mechanisms shall be discarded in favor of a model which accounts for matter, life and thought as purposive forms of self-expression and self-perfection. Genetic theory will have to de-emphasize the one-directional cause-effect relationship according to which genes determine organismic structure and function. Genes cannot explain psychological processes, nor are they the ultimate units of life. They shall have to be regarded as ecosystemically integrated and influenced by organic and, as in the case of humans, by supra-organic, i.e., psycho-epistemological processes.

The question whether psychology is a natural or a social science shall be considered irrelevant, for, both natural and social sciences are ultimately concerned with our environment and our relationship to it and hence are ecohumanist.

Social Sciences

Social sciences shall not be modelled anymore after the natural sciences. They shall be creatively disintegrated into cultural, i.e., symbolic, arts of empathic understanding which emphasize transcendental communication centered around psycho-epistemological concerns about Quality.

Linguistic and ecological anthropology shall merge and provide us with a better grasp of our psycho-epistemological reality experiences and cultural activities. Political economics shall not center

anymore around such concepts as money, property, competition, efficiency and productivity, but shall turn into a liberatory philosophy of anarcho-ecological action in the interests of meaningful creativity, empathic communication, loving knowledge and serene self-actualization. A new art of social practice shall integrate, synchronize and orchestrate the various transcendental languages, reality experiences and cultural activities. Work shall be leisurely and generative of love in a polyarchic rather than hierarchic eco-community. Ecocrats shall neither govern nor be governed. The guiding principle of ecocultural conduct shall be Quality, i.e., pure Quality experiences. Quality shall always be in control of quantity in all domains of cultural activity. An ecology of health shall stress preventive therapies, organic nutrition and holistic life-styles. A "soft" ecotechnology shall purpose to harmonize humanity's self-actualization process with the world's ecosystemic self-becoming.

Art, Religion, Philosophy

Living the good life shall be the highest and most pervasive art. The good life shall be the self-expressive life. Ecocrats shall aim at fully actualizing their creative potentials.

Various mystical, mythological and religious world pictures will come about to do justice to humanity's multi-facetted psycho-epistemological needs. They not only shall be relevant to transcendental cultural activities, but they also shall be accessible to everyone.

Abstract logical positivism shall cede to a pragmatic psycho-epistemological philosophy of life. Ethical conduct shall be reinterpreted as esthetical self-actualization towards perfection. The history of philosophy shall be re-written in terms of the sixth century B.C. split between psychological and epistemological rationality. Religion shall be an art, art a philosophy, philosophy a religion.

Far from being exhaustive the above sketch is meant to point out the direction in which Western techno-economic civilization will have to creatively disintegrate if it is to avoid fatal collapse. To steer humanity's cultural evolution along the course of Quality: such shall be the revolutionary task of our ecological humanism.

## 85. The Revolution of Quality

> The most heroic word in all languages is "Revolution."
>
> Eugene Debs[2]

The program for cultural change needs to be carried out by the great majority of the members of techno-economic civilization. Now that I have worked out the basis, the means and the program for cultural change, we need to act. For, it is not enough to ponder about cultural change, to meditate about the metaphysics of Quality and to fantasize about an anarcho-ecological utopia. Everyone, technocrat or axiocrat, has to channel his/her self-actualizing process towards a psycho-epistemological transcendence of his/her personal split. The social revolution is ultimately a personal

revolution each one of us has to undergo, has to commit him/herself to. It is a revolution which we cannot afford to procrastinate about anymore lest we become too languid within our techno-economic straightjacket. We, therefore, need immediately to re-examine our personal and social life-styles, our perceptions and conceptions of the world, our experiences, expectations, knowledge, beliefs and dreams. Most urgently, we need to re-evaluate our methods of examination, our constructs of inquiry with regard to their purpose and their value for human self-fulfillment.[3]

The history of human fear is saturated with experiential frustration, joyless self-negation, personal and ecological havoc. Whether one regards that history as a record of technological and material progress or even as a chronicle of expanding human self-fulfillment, one nevertheless cannot deny that human history could have been a far more positive, liberating and exhilarating odyssey of cultural/personal self-actualization, had it not been for the cultural/personal split between the psychological (the esthetic/ethical, the subjective) and the epistemological (the cognitive/utilitarian, the objective). What we shall have to aim for is to re-direct human history onto the course of Quality which leads to an ecological humanism.

The gist of an ecological humanism is the will not to capitulate in the rigor mortis of a behaviorally engineered world society. It is the ardent libertarian belief that capitalism and communism

are misanthropic and anti-ecological; it is a conscientious objection to computerized technocracy; it is a rebellion in the name of the courage to create a world of Quality; it is a pledge to authentic living.[4]

Let us, therefore, joyfully dedicate ourselves to the most important and most extraordinary revolution humanity has yet to face: the Revolution of Quality.

# FOOTNOTES

## FOOTNOTES

[NOTE: USLE--Unintentional Sexist Language Eliminated.]

### Part One, Section I

1. Glenn L. Johnson and K. Lewis Zerby, What Economists Do About Values (East Lansing: Michigan State University, 1973), p. 3.
2. See 1, USLE.
3. See 1, pp. 1-2.

### Part One, Section II, A

1. John Kenneth Galbraith, The New Industrial State, 2nd ed., rev. (New York: Mentor Books, 1972), pp. 147-148.
2. See 1, p. 39.
3. See 1, p. xiii.
4. See 1, p. xvi.
5. See 1, p. vii.
6. See 1, p. 26.
7. My term, not Galbraith's.
8. See 7.
9. See 1, p. xviii.
10. See 1, pp. 24-25, 32-35.
11. See 1, p. 51.
12. See 1, pp. 24-25.
13. See 1, p. 37.
14. See 1, p. 21.
15. See 1, p. 27.
16. See 15; italics mine.
17. Lewis Mumford, The Myth of the Machine. Vol. 2: The Pentagon of Power (New York: Harcourt Brace Jovanovich, 1970), p. 172.
18. See 17, p. 173.
19. Daniel G. Kozlovsky, An Ecological and Evolutionary Ethic (Englewood Cliffs: Prentice Hall, 1974), p. 82.
20. See 1, p. 70.
21. See 1, p. 61.
22. See 1, p. 65.
23. See 1, p. 67.
24. See 1, p. 68.
25. See 1, p. 71.
26. See 1, pp. 71-72.
27. See 1, p. 65.
28. See 1, pp. 74-75.
29. Quoted from a handout for the "Philosophy of Technology"-class taught by Phil Shepard at Michigan State University.
30. See 1, p. 75, USLE.

31. See 1, p. 76, USLE.
32. See 1, p. 115.
33. See 1, p. 111.
34. Theodore Roszak, Where the Wasteland Ends (Garden City, N.Y.: Anchor Books, 1973), Chap. 2.
35. See 34, pp. 35-36.
36. See 34, p. 29.
37. See 34, p. 51.
38. See 34, p. 39.
39. See 34, p. 40.
40. See 34, p. 42.
41. See 29.
42. See 1, pp. 166-167.
43. See 1, pp. 138-139.
44. See 1, p. 140.
45. See 1, p. 146.
46. See 1, pp. 155-162.
47. See 1, p. 166.
48. See 47.
49. See 1, p. 167.
50. See 49.
51. See 1, p. 209.
52. See 1, p. 200.
53. See 1, p. 201.
54. See 53, USLE.
55. See 1, p. 203.
56. See 55.
57. See 51.
58. See 1, p. 310.
59. See 1, p. 210.
60. See 1, p. 354, USLE.
61. See 1, p. 258.
62. See 1, p. 263.
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86. See 79, p. 33.
87. See 86.
88. See 79, p. 34.
89. See 88.
90. See 79, p. 36.
91. See 79, Chap. 4.
92. See 79, p. 38.
93. See 79, p. 50.
94. See 79, p. 58.
95. See 34, Chap. 12.
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8. See 7.
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20. See 15, p. 37.

21. See 15, p. 36.
22. See 15, p. 34.
23. See 22.
24. See 21.
25. See 15, p. 38.
26. See 25.
27. See 15, p. 39.
28. See 27.
29. See 2, p. 25.
30. See 2, p. 26, name not given.
31. See 2, p. 24.
32. See 29.
33. See 29.
34. See 30.
35. See 2, p. 27.
36. See 2, pp. 27-28, USLE.
37. See 2, p. 28.
38. See 15, p. 35.
39. See 2, p. 55.
40. See 2, pp. 48-49.
41. See 2, p. 52.
42. See 2, p. 44.
43. See 2, p. 74.
44. See 2, p. 137.
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46. See 45.
47. See 45, USLE.
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53. See 2, pp. 154-157.
54. See 2, p. 159.
55. See 2, p. 174-177.
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58. See 2, p. 191.
59. See 2, p. 188.
60. See 2, p. 189.
61. See 2, p. 192.
62. See 61.
63. See 61.
64. See 1, p. 200.
65. See 64.
66. See 64.
67. See 2, p. 189.
68. See 67.
69. See 2, p. 217.
70. See 69.

71. See 69.
72. See 2, p. 221.
73. See 2, p. 218.
74. L. S. Mercier, see 2, p. 219.
75. See 2, pp. 223-225.
76. See 2, p. 251, USLE.
77. See 2, p. 319.
78. See 2, p. 254; original italics omitted.
79. See 78.
80. See 78.
81. See 78, USLE.
82. See 78.
83. See 1, p. 207.
84. See 2, p. 282.
85. See 84; original italics omitted.
86. See 2, pp. 282-283.
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88. See 2, p. 251.
89. See 88.
90. See 2, p. 217.
91. See 2, p. 95.
92. See 2, p. xix.
93. See 2, p. 52.
94. See 2, p. x.
95. See 94.
96. See 94, USLE.
97. See 2, pp. 18-19.
98. See 2, p. 333.
99. See 98.
100. See 98.
101. See 2, p. xv.
102. See 2, p. xvii.
103. See 2, p. xx, USLE.
104. See 2, p. 27.
105. See 2, p. 36.
106. See 2, p. 173.
107. See 2, pp. 124; 127.
108. See 2, pp. 155-156.
109. See 2, p. 172.
110. See 2, p. 240.
111. See 2, p. 241, USLE.
112. See 111.
113. See 2, p. 242.
114. See 2, p. 243.
115. See 2, p. 245, USLE.
116. See 2, pp. 245-246.
117. See 2, p. 253, USLE.
118. See 2, p. 248, USLE.
119. See 1, p. 165.
120. See 1, pp. 164; 167.

71. See 69.
72. See 2, p. 221.
73. See 2, p. 218.
74. L. S. Mercier, see 2, p. 219.
75. See 2, pp. 223-225.
76. See 2, p. 251, USLE.
77. See 2, p. 319.
78. See 2, p. 254; original italics omitted.
79. See 78.
80. See 78.
81. See 78, USLE.
82. See 78.
83. See 1, p. 207.
84. See 2, p. 282.
85. See 84; original italics omitted.
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88. See 2, p. 251.
89. See 88.
90. See 2, p. 217.
91. See 2, p. 95.
92. See 2, p. xix.
93. See 2, p. 52.
94. See 2, p. x.
95. See 94.
96. See 94, USLE.
97. See 2, pp. 18-19.
98. See 2, p. 333.
99. See 98.
100. See 98.
101. See 2, p. xv.
102. See 2, p. xvii.
103. See 2, p. xx, USLE.
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106. See 2, p. 173.
107. See 2, pp. 124; 127.
108. See 2, pp. 155-156.
109. See 2, p. 172.
110. See 2, p. 240.
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112. See 111.
113. See 2, p. 242.
114. See 2, p. 243.
115. See 2, p. 245, USLE.
116. See 2, pp. 245-246.
117. See 2, p. 253, USLE.
118. See 2, p. 248, USLE.
119. See 1, p. 165.
120. See 1, pp. 164; 167.

121. See 1, pp. 167-168.
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123. See 1, p. 168.
124. See 1, pp. 169-170.
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61. See 2, p. 128.
62. See 2, p. 132.
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68. See 1, p. 6.
69. See 1, p. 14.
70. See 1, p. 23.
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18. See 6, p. 95.
19. See 6, pp. 14-15.
20. See 6, p. 11.
21. See 6, p. 13.
22. See 6, p. 15.

23. See 8, p. 104.
24. See 8, p. 105.
25. See 24.
26. See 8, p. 106.
27. See 6, p. 95. Here Slater uses the term "man" intentionally to designate the human male. I however have changed it into "human," for Slater's argument holds true for all humans.
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29. See 6, pp. 20-21.
30. See 6, pp. 21-22.
31. See 6, p. 23.
32. See 31.
33. See 8, pp. 108-109.
34. See 33.
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49. See 48.
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109. See 8, p. 169.
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124. See 8, p. 189.
125. See 8, pp. 194-195.
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127. See 8, pp. 195-196.
128. See 8, p. 198.
129. See 58, p. 27.
130. See 6, p. 154.
131. See 102, p. 82.
132. See 8, p. 215.
133. See 8, pp. 216-217.
134. See 8, pp. 220-221.
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137. See 8, p. 224.
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22. See 2, p. 10.
23. See 2, p. 11, USLE; italics mine.
24. See 2, p. 12, USLE.
25. See 2, pp. 12-15, USLE; italics mine.
26. See 2, p. 15; USLE; italics mine.
27. See 2, p. 13.
28. See 27.
29. See 2, p. 14.
30. See 15, p. 15.
31. See 30, square and round brackets added.
32. See 2, pp. 16-17, USLE; italics mine.
33. See 2, p. 19, USLE.
34. See 2, p. 2o, USLE; italics mine.
35. See 34, USLE.
36. More about that in Chap. 51.
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68. See 59, p. 19.
69. See 59, pp. 14-16.
70. See 59, p. 18.
71. See 70.
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95. See 77, p. 84, USLE.
96. See 77, p. 96.
97. See 77, p. 78.
98. See 77, p 81.
99. See 77, pp. 83-84.

100. See 77, p. 84, USLE.
101. See 77, p. 86.
102. See 77, p. 89.
103. See 77, p. 87.
104. See 77, p. 97.
105. See 103.
106. See 77, p. 88; round parentheses inserted.
107. See 102, USLE.
108. See 77, p. 93.
109. See 108.
110. See 77, p. 95.
111. See 77, p. 96.
112. See 77, p. 98.
113. See 112.
114. See 112.
115. See 82, p. 145, no USLE.
116. See 82, p. 138.
117. See 77, p. 106, USLE.
118. See 77, p. 108.
119. See 77, p. 110.
120. See 77, p. 112.
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3. See 1, pp. 16-17.
4. See 1, p. 28.
5. See 1, p. 29.
6. See 1, p. 30.
7. See 1, p. 41.
8. See 7.
9. See 1, p. 208.
10. See 1, pp. 41-42.
11. See 1, p. 42.
12. See 1, pp. 42-43, USLE.
13. See 1, p. 44; italics mine.
14. See 1, p. 45.
15. See 1, p. 46.
16. See 1, pp. 46-47.
17. See 1, pp. 47-48.

18. See 1, p. 48.
19. See 1, p. 69, USLE.
20. See 1, p. 70.
21. See 1, p. 71.
22. See 21.
23. See 1, pp. 73-74; "reason" and "after" italicized by the author; other italics mine.
24. See 1, pp. 59-61, USLE.
25. See 1, p. 13.
26. See 1, pp. 10-11.
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28. See 27, p. 111.
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30. See 29, p. 26, no USLE.
31. See 29, p. 26; italics mine.
32. See 29, p. 26, USLE.
33. See 32, USLE.
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35. See 34, p. 10.
36. See 34, p. 7.
37. See 34, pp. 8-9.
38. See 34, p. 9-10.
39. See 34, pp. 10-11.
40. See 34, p. 14.
41. See 34, p. 15.
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4. See 2, p. 59.
5. See 2, p. 175, USLE.
6. See 2, p. 68.
7. See 2, p. 74, USLE.
8. See 2, p. 71, USLE.
9. See 2, pp. 79-80, USLE.
10. See 2, p. 71.
11. Pirsig, See Part One, Section II, D, fn. 58, p. 371.
12. See 11, p. 373.
13. See 11.
14. Kitto, see Part One, Section II, C, fn. 79, pp. 171-172, USLE.

15. See William S. Sahakian, Outline--History of Philosophy (New York: Barnes & Noble, 1968), p. 49.
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17. See 16, pp. 131-132.
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21. See 20, pp. 78-79, USLE.
22. See 16, p. 222.
23. See 16, p. 226.
24. See 20, pp. 110-111, USLE.
25. See 20, p. 114.
26. See 20, p. 136.
27. See 20, pp. 141-142.
28. See 20, p. 171.
29. See 16, p. 379.
30. See 16, p. 385, no USLE.
31. See 20, p. 19.
32. See 16, p. 390.
33. See 20, p. 15.
34. See 16, p. 462, USLE.
35. See 16, p. 464.
36. See 20, p. 213.
37. See 20, p. 206.
38. See 20, p. 249, USLE.
39. Roszak, see Part One, Section II, A, fn. 34, p. 255.
40. See 39, p. 261.
41. See 20, p. 123.
42. See 39, p. 256.
43. See 20, p. 124.
44. See 39, p. 287.
45. See 39, p. 288.
46. See 39, p. 288.
47. See 20, p. 125.
48. See 20, pp. 126-127.
49. See 20, p. 129.
50. See 20, p. 128.
51. See 39, p. 304.
52. See 39, pp. 311-312.
53. See 39, p. 314.
54. See 20, p. 130.
55. See 20, p. 132.

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## Part Three, Section I

1. See Part One, Section II, D, fn. 90, p. 76.

## Part Three, Section II

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2. See 1, p. 126.
3. See Gary Zukav, The Dancing Wu Li Masters (New York: William Morrow and Co., 1979), p. 54, USLE.
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22. See 21.
23. See 11, pp. 221-222.
24. See 11, p. 230.
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28. See 27.
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16. See 15.
17. See 12, pp. 214-215.
18. See 12, p. 158.
19. See 5, pp. 23-24.
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