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Ecophilosophy and Ecopolitics

Thinking and Acting in Response to the Threats of Ecocatastrophe

BY SIGMUND KVALØY SETRENG

INTRODUCTION

What follows is the result of work done in the Ecophilosophy Group of *Samarbeidsgruppene for Natur- og Miljøvern* [(snm)^[1]], “The Co-working Groups for Nature- and Environment Protection”—a circle of groups working in concert, dealing with the whole range of environmental problems, and which have spread all over Norway during the last four years. In our work with ecophilosophy we have tried to maintain an effective balance between theoretical and practical work: The ecophilosophy group has regularly made visits to villages and farm communities far from the adminis-

trative centers and engaged itself in their local problems, it has visited large factories, talked to the workers on the night shift, etc. The group has been composed of people with differing backgrounds, not all of them with any connection to higher teaching institutions. Most of the members have also been active in one or more of the other more practically oriented groups of (snm). To philosophize with clear and direct relevance to political analysis and practical politics—to formulate an ecophilosophy incorporating an ecopolitics—has always been a main goal.

Out of the many topics and aspects that characterize the ecophilosophy of (snm), I must here con-

1. The abbreviated form, “(snm),” is purposely written with lower-case letters and parentheses, to remind ourselves that the organization is never to become a goal in itself.

fine myself to a few. (We have, for example, related ecological thinking to classical European and Oriental philosophy, but that work will not be treated here.) I will first give a sketch of our definition and analysis of Industrial Growth Society (IGS), and later mention some characteristics of its counterpart, Life Necessities Society (LNS). This aspect of the ecophilosophy will be stressed because it has the most direct relevance to political action.

The (snm) group has limited the use of the word “ecophilosophy” to philosophy directly and decisively incorporating concepts and hypotheses characteristic of modern scientific ecology (synecology), which to a significant extent constitutes thought forms only embryonic or not even developed in earlier philosophy. Here I have in mind primarily cybernetic thinking in systems ecology, which may be viewed as one starting point for a radical reorientation of our Western scientific tradition—away from its extreme concentration on splitting the world up into discrete objects for specialists’ analysis. Oriental philosophy, in contrast to European, also views the world and man as a continuous whole, but lacks the sharpness of concepts relating whole systems and interactions within systems to empirical experiences that modern ecology and systems theory have introduced. This indebtedness of ours to systems ecology will be most apparent in the latter part of this article.

The expression “Industrial Growth Society” has been chosen because we intend to describe a society that has the output of industrial products as its main functional basis, contrasting this with “Life Necessities Society,” a society having its basis in the production of life necessities (such as food, shelter, clothing, roads to serve a stability-securing exchange and distribution of food and materials, etc.).

HUMAN ECOLOGY: FOCAL POINT OF THE ECOCRISIS

In contrast to most people, who refer when talking about the ecocrisis to pollution and depletion of resources, we have felt that its most serious aspects are those belonging to the fields of *human ecology*^[2] and socio-political enquiry. Closely tied to the destruction and disruption of our natural environment is the very rapid change and disruption occurring within the industrial societies. The industrial-growth system, which is common to both Western and Eastern Europe, as well as to North America and Japan, is not only tapping the resources and breaking down the ecosystems of these areas and of the developing countries, but it is building up *social instability* at an accelerating pace. Simultaneously, it is transforming people’s way of living so as to make them even more *dependent* upon a continuous ecocrisis. A parallel “adjustment”—at least as disruptive—is inflicted upon the societies and culture of the developing countries, not only through neo-imperialism, but in most cases also through so-called “development aid”: projects requiring societies miraculously to thrive after having had their cultural roots severed.

The built-in dynamics and the industrial-economic strength of our “Western” societies seem to mean that we are locked in on a course that entails a total qualitative change in the global society, one which is reversible only after a period of complete loss of control.

If we go on spending most of our time using traditional concepts and discussing traditional political problems (we are not alone in feeling that, for instance, the nomenclature “socialist” and “capitalist”—pertaining to the ideological or political divisions of the Northern Hemisphere—is misleading today), we

2. The term is used here to denote the study of individual humans and human society as integrated parts of the greater ecosystem, and in such a way that the conceptual apparatus of ecology (synecology) is adapted to the description of equilibrium relationships in human society. The concept is wider than that used by anthropologists and sociologists. The ecological work of botanists and zoologists I call *bioecology*.

may bypass the most deep-seated problems of our near future. We might even say that, if the representatives of our countries at the ongoing top-level peace conferences are successful in reaching unanimous conclusions and recommendations within the traditional conflict areas (common law, recognition of borders, an all-European security system, etc.)—and if our engineers and scientists make great progress in pollution control and energy-saving techniques—we might create false feelings in our countries that the future looks brighter and thereby retard a widespread awakening to the steadily deepening systems shift that is going on. The result would be to allow the real crisis of our day—IGS's *disastrous simplification of ecological and social complexity*—to gain momentum towards total irreversibility: a final uprooting of so many evolutionary and cultural threads that any fresh build-up of a kind useful to mankind can occur only after centuries, if ever.

The required new kind of social and political analysis demands great care, in spite of the needed haste. Defensible, specific recommendations for political action cannot be given if not based upon a consciousness so wide in scope and clear in practical implication that it “automatically” checks all ideas tending to function merely as “security valves” on IGS—only offsetting or retarding *real* solutions.^[3] The (snm) group's intention is to contribute towards an analysis of IGS which has such checks built in. We have, of course, made only a slight beginning in the coverage of such a program. To

get a scheme of this scope well under way will have to be the task of many groups, working from many different starting points in different countries and cultures.^[4] It is now extremely urgent that such groups build up a permanent contact network, preferably independent of official channels and old institutional arrangements.

INDUSTRIAL GROWTH SOCIETY

We have stressed four features of IGS:

1. It is a society that has its basis in a steady growth in output of *industrial products*, and where the question of whether these products are *life necessities* is not treated as an important question. In IGS, what were once *means* have taken the place of central social *goals*. Because this has created built-in difficulties of moral justification, such questions tend to be treated as irrelevant by the decision-makers when production-priorities are decided.
 2. The growth in industrial production is propelled through the mechanism of *individual competition*, whether between persons, industrial firms, or industrial states. Not to compete—individually, or in individual units—means not to survive, because of pressure of the same kind on all sides. Loyalty or collective utility are forces of no significant practical import. The spirit of individual competition is infused into the society's members in all walks of
3. The standard example here is pollution technique that allows the drain on resources to increase. A less obvious example is that of wilderness parks functioning as part-time breathing spaces, enabling big-city dwellers to endure the day-to-day stress at home longer before they revolt. In Europe, the EEC is such a security valve of gigantic proportions. We even see ecologists being attached to various EEC agencies, illustrating the prospect that these new experts—listened to with hope because of their proclaimed insight into ecocrisis—may become the most dangerous of all “establishment protectors.” These people are indeed very useful to IGS, because they are able to furnish additional data for quantification and central programming. (See also footnote 9!)
 4. In order to do fruitful work, I think it is necessary that such groups be consciously engaged in political struggles to protect ecosystems, human environments or human groups, cultural minorities, etc., since this means confrontation with the control bodies of IGS, and IGS reveals itself best when it is fighting off attacks. This also gives the groups a common denominator.

life, throughout work and leisure, from economics to sports and art.^[5]

3. IGS's most important industrial resource and means to competitive survival is *applied science*. This—coupled with the pressures of competition—means that the *number of* and *variation in* ways of utilizing nature and humans to further industrial growth interests is increasing exponentially; the “front of attack” upon the total ecosystem (including the social system) is always widening with increasing speed, and the sum total and nature of this attack becomes increasingly more difficult to grasp. It is also important to note that the stiffening competition to be first on the market with new products demands of an increasing number of scientists and engineers that they become narrow-sighted super-specialists. Otherwise they can never hope to outdo the other super-specialists within their special field. These are people who are systematically trained to *lose* that overview which solutions to a systems crisis require.
4. IGS's characteristic tool for social coordination, for repairing social imbalance or disruption, and for taking into account social and individual values is *standardization* and *quantification* (what has been called “social engineering”). Close-knit and complex social units, established through slow adjustment over the ages to specific and varying local requirements, are cut up into pieces, and the pieces refitted into a sim-

plified, standardized, and quantifiable pattern suitable for centralized, bit-unit switchboard control. This phenomenon—quantification as the general tool of social problem-solving and steering—has leveled the ground for the recent development of control and manipulation through the use of computers, electronics in general, and communication via electrical networks. Seen as a whole, this constitutes a gigantic stride towards shaping man into an accessory to machinery, cutting him off from self-control and from the mastery of his destiny in the global environment.

A STRUCTURE FUNCTIONING BY ACCELERATING ITS OWN DESTRUCTION

We think these four features catch some of the most central aspects of the present-day societies of North America, Europe West and East, Japan, Australia, and New Zealand,^[6] and that recognizing them is essential to an understanding of the difficulties inherent in the political project of reversing the ecocrisis.

By stressing these features, and by seeing how they interlock, three points spring into focus:

1. IGS is a society that is building up its own imbalance on all levels—ecologically, socially, economically, mentally—and is doing this at an accelerating pace.
2. The various signs of this imbalance—stress, violence, lack of intra-social loyalty, etc.—are con-

5. The predominant kind of competition is not the struggle to be best as a positive force (although this is the kind held up as a norm in our homes and schools), but the negative kind: competition as a weapon of defense against attacks from other individuals, other firms, etc.—something each one is *forced* into using to keep abreast of the threat that things and positions may be *taken away from us*. We might call this structural feature of IGS “defensive competition.” One of the obstacles we meet when, for instance, we attack an industrial company for hurting the environment, is the counterattack referring to the loss of competitive ability resulting from spending on pollution removal, and that this is a threat to the company's workers. This may be responsible talk by the company's leaders, but it shows how they and the company are caught up in the evil circle of defensive competition.
6. We could also add several Third World areas, especially in reference to the economic and social structures of some big city districts—like, for instance, Sao Paulo, Brazil. These function economically, socially, politically and culturally as bridgeheads of IGS imperialism.

stantly and necessarily misinterpreted by the society's control organs: All problems are primarily understood as being of a technical or economic nature and the solutions are devised to fit that picture; the "solutions" themselves become factors that strengthen the crisis.

3. Social bonds are torn apart, meaningless ways of life proliferate, and the unrest and dissatisfaction thus created are compensated for through the "Disneyland effect" (sometimes called "the Bingo effect")—that is, through cultural diversions having no relation to man's everyday struggle for security, personal inner growth, the mastery of complex survival problems, etc.^[7] The members of the society meet each other and their environment through the "MM-barrier"—the artificial wall of "machinery and media" (*diverting* any "message"—to disagree, in passing, with McLuhan!). Direct contacts and the sharing of challenges are missing.

The result of this is that people more and more live in a *fake* world, and that they gradually and unnoticeably *lose the ability* to master their own situation and to take part in a conscious shaping of their society. In other words, we reach a state of affairs where people *have* to be governed from the outside and above (*asystemic* control is replacing *systemic*, to use the expressions of *The Ecolo-*

gist's editor, Edward Goldsmith): Society becomes "addicted to" a continuation on the same course.

Expressed alternatively: The human basis for a life of meaningful growth, for a living democracy, and—related to the former—for the retrieval of ecological balance, is undermined in a steady and systematic manner. More and more far-reaching decisions are left to "thinking machines" which think no wider and further than the short-sighted experts who made them, and to the owners and administrators of industrial-growth capital who are blinded by their own positions.

What I am describing is a society that *lives by accelerating* its own ecological and social crisis: Even a shift from an exponential to a linear industrial expansion rate would bring on a serious upheaval in society. A return to ecological equilibrium—steady state—would mean a basic breakdown of our present society and culture.

Others who have studied the problems facing our Euro-American societies have come up with similar analyses (*e.g.*, writers like Theodore Roszak and Edward Goldsmith), if not with the same pessimistic conclusion or the same political stance. The most important point here is that these analyses logically point in the direction of an extremely dangerous situation, and of a timetable for solutions that is tight indeed. They also indicate that traditional ways of defining political problems are completely outdated.

7. There is another important diversionary effect that really needs a lengthier exposition, but must at least be mentioned here, if only in passing: *War* and the threat of and preparation for war seem, up to now, to have had an important function in keeping an IGS nation together when its inner social structure is far gone towards dissolution. The best example of recent years is the USA in relation to Indo-China—*cf.* President Nixon's finger pointing to the East and the great effort needed there whenever internal pressures are mounting at home. (The point is well stated in L.C. Lewin: *Report from Iron Mountain on the Possibility and Desirability of Peace*, New York, 1967.) Still another example may be the U.S. military "alert" during the 1973 Middle East crisis. What now seems to be happening is that an extra effort is being put into reducing warring activity and war production on behalf of the IGS powers because of the costs involved, in the face of the present crisis in materials and energy. The effect of diverting the citizens' attention from troubles at home and giving society a semblance of unity will be seriously reduced if real peace "breaks out": we are, however, probably now seeing a transition from the "war diversion" to the "ecocrisis diversion"—*i.e.*, from the utilization of one outside threat to another as a means of persuading people to "stick it out a little longer." Right now it is easier to persuade IGS citizens that pollution and shortages in food, materials, and energy are threats requiring concerted action and great sacrifice than to make continued reference to the threat of armed aggression. The ecocrisis may then go on expanding without too much popular protest against a deteriorating existence and new levels in rules and regulations—just as the people endured a worsening of their lot to save the nation during past wars. Through such intervention, the factual picture of a society that has lost its systemic nature may be hidden for some additional period.

IN NORWAY, Dr. Peter W. Zapffe, Professor Arne Naess and Assistant Professor Hjalmar Hegge, have pioneered work in this direction. They are all (snm) members, but have not directly taken part in the work within the Ecophilosophy Group. Zapffe worked out his biosophy as early as 1940. Naess, who has been head of the Institute of Philosophy at the University of Oslo for 25 years, has named his recent venture ecosophy.

There are interesting differences between Zapffe and Naess, despite their shared commitment to the value of intense communion with their country's nature of subarctic mountains and fjords—the specific influence having left its strong mark on nearly all literary and artistic talent in Norway. Zapffe's basically tragic view of the fate of the human species made it natural for him to underline the entropy law (saying that all energetic and material potentialities in the universe are inexorably running down) to show how easily man's effort to create specifically human order ends in increased disorder and destruction. Because of this and a conceptual structure based on his interest in early theoretical "humanist" ecology, Zapffe's 1940-60 work reads surprisingly modern today. His intensity and poetic inventiveness have inspired many Norwegian environmentalists to seek ethical and philosophic foundations for their positions.

While Zapffe stresses the relationships of conflict as basic in man's meeting with nature and his fellow being, Naess, however, is basically optimistic in his writings, philosophically finding his closest kinship in the Oriental and Spinozistic views of the world as at the core harmonious, stressing that man and nature are one, and opposing strongly the traditional anthropocentric view of European culture. To Naess, the entropy

law could not achieve the basic position it has in Zapffe's philosophy, because of his skeptical position in epistemology and his corresponding lack of interest in ontology (Naess does not commit himself to the positive assertion "man and nature are in fact one"—but neither can the opposite be asserted, and this is his chosen perspective). In practical ethics, Naess has sought an association with the work of Gandhi. This part of his work has been very influential among Norwegian environmental activists (cf. Naess's "The Place of Joy in a World of Fact" in the Summer 1973 NAR).

One might perhaps say that while neither Zapffe nor Naess has been accepted wholly (they could not both be at the same time in the same person), they have been two of the elements contributing to making Norwegian ecophilosophy and ecopolitics into something that probably is not easily fitted into categories of contemporary thought originating elsewhere on these matters. Other contributing elements to this specifically Norwegian mixture are such items as: Norwegian historical background, conditions for living posed by nature, climate and landscape (division into tiny communities with difficult communication always posing problems to a central administration, expanses of arable land so small and scattered that a strong feudalism never came into being)—all the elements that also go to explain the Norwegian "No" to joining the European Common Market, a matter that is, of course, closely related to the contemporary problems of man and environment. The only other nation where I personally have found widespread thinking on the subject of man, society, and nature quite close to the Norwegian is Iceland—which should be a surprise to no one, keeping in mind the similarities in background and present situation of the two nations.

“COMPLEXITY” VERSUS “COMPLICATION”

The planners of our present-day society very often speak about the necessity of creating human environments that are “colorful,” “rich in variety,” “manifold,” “complex”—and often refer to findings and theories in psychology, sociology, and ecology when doing so. At the same time, they talk about modern big cities as representing an *increase* in diversity and complexity over the rural or small town environments they have replaced. We think that in most cases the planners are wrong, or at least that talk about the “complexity of modern living” is misleading. Furthermore, we feel that such pronouncements may even serve as an especially refined way of weaving a curtain of artificial beads and glitter *hiding* from the public what the planners are really contributing to—a steadily increasing *simplification and disruption* of ecological and social complexity. Through *non-ecological* reasoning, modern city planners and experts of various categories in the service of industrialism give their decisions an air of unquestionable authority by referring to ecology—the science that “everybody knows” is designed to give the answers to the most pressing dangers facing mankind today.

In an attempt to clear our thoughts in this area, we have split up the old notion of complexity into two concepts: “*complexity*” for ecological complexity and “*complication*” for that kind of multifactored set of entities and relationships that can be expressed through *quantification*. A person who is busy solving a routine problem in calculation, finding a statistical expression for proportions of this or that within a nation’s economy, or operating some piece of machinery in a mod-

ern factory, may find the task difficult and demanding (the term “complication” usually has an air associating it with stressful activity). He is, however, all the time operating on the *same qualitative* level—it is always a question of putting the same kind of quantities together into different patterns according to a few (but very ingenious and productive!) standard rules and definitions that he has been taught. What he confronts is *complication*, not *complexity*.

Ecological complexity—in the wide sense needed to understand intellectually and grasp intuitively the workings of nature and human society—operates on *many qualitative levels*, besides the level of complication. Complication was introduced into the world by the human mind, and refers to the special cluster of difficulties and, finally, impossibilities inherent in the attempt to express complexity through quantification. Of course, looking at the world as patterns of measurable and comparable quantities has proved a useful tool for man in the attempt to master his environment; it is even useful and necessary for the future task of recreating complexity in the world—for the protection of a maximum of possibilities for continued complex growth and evolution.

What is happening today, however, is that this one level of theorizing and organizing which has given man his industrial might—the level of quantities—pushes out of serious consideration all human capacities of other levels: intuition, sensitivity, love, direct integration of body and mind in rhythmic movement with nature and fellow beings, aesthetic judgement as a force in practical matters, a person’s or group’s attachment to a specific home environment, the inner strength and self-reliance gained through such attachment, etc.^[8] Nature and its

8. To order these other qualitative levels into specific, well-defined categories would mean the beginning of a treatment of them on the level of complication. Neither can there be stated a specific limit to the number of qualities or qualitative levels appropriate to a true description of nature. According to the “complexity view” of the world, qualities constitute a continuum in physical and mental space and time. This does not mean, however, that the world appears undifferentiated; rather the opposite, for with this view as a basis we are better able to see the quantitative approach as a grossly misleading *standardization* of nature and man. Nicholas Georgescu-Roegen has an illuminating discussion of the logical trouble confronting those who attempt to categorize qualities in his *The Entropy Law and the Economic Process*, a book that is a rich treasure-chest for all those environmentalists who are frustrated at beating in vain on the fortress walls of standard economic theory.

child—the human being—are continuously working on such levels, in areas of function and relationships that do not yield to ready-made, measurable entities. Neither the ecosystem nor the human being can do without them on this side of disaster. One of the obvious examples from human society is the relationship of love that binds parents and children together: A quantitative treatment of this relation would only lead to pseudo-descriptions—expressions corresponding to no real-world phenomena—but without this relationship in fresh bloom human society could not survive.

The vast human faculty of intuition—which operates and guides our myriad minor and major decisions and movements every minute of the day—is likewise beyond quantification. Yet our “social engineers” are busy refining methods of understanding and control that are unsuited to the consequential consideration of any part of this faculty.

Aiding this development is the almost systematic confusion of complexity with complication. Even many leading bio-ecologists are propagating this confusion, forgetting their scientific caution as soon as they lift their eyes from grass and beetles and start talking about their own closest connecting link with nature, the *human* society.^[9]

COMPLEXITY, COMPLICATION AND THE POLITICAL POWER STRUCTURE

To a steadily increasing degree, the inhabitants of the world of Western civilization are big-city dwellers, and modern cities are in great measure structures and func-

tional units erected through quantitative thinking and freighted with complication. In order to keep them running, their inhabitants must themselves be treated as quantities all on the same qualitative level; otherwise the centrally placed specialist managers would lose track of what was happening. One of the important aspects of the modern Western city structure is that its basic driving and shaping force is a techno-capitalist economy, which cannot function except through large-scale, “rational,” quantitative treatment of its subject matter.

In order to reach the highest level of the movers and managers in this physical and social structure, and to be able to stay there, a person must have learned through gradual training and lucky circumstances to function in keeping with the four features of IGS introduced above. The luck is, of course, to be born with the right “talents”—among them the biological basis for a strong ability to withstand psychic stress.

The point I want to emphasize, however, is that in order to be able to ascend to the managerial summit with sufficient energy to spare, one must have led a *complex* life: Through years of upbringing, one must have come out well in the individual competitions he has been engaged in within different fields, so that in general it has not been necessary for him to yield to molds of complication forced upon him from the outside. He has been able to handle and govern the world and people around him through the tool of quantification, because *he himself* has been able to expand by means of intuition, sensitivity, and feeling,—in short, by building up his own inner complexity (“ego-complexity”) through a gradually developed mastery of complex environmental and social challenges.^[10] As a

9. With big money grants at their backs, such “techno-ecologists” are today busy trying to quantify new—so far unheard of—areas of nature and social systems. Ecological methods have seeped into many a “future research” project. The greater part of such projects are more than anything else symptoms of the IGS view of world and values. Illustrative are, e.g., the work of The Hudson Institute, The Pittsburgh Values Project (IBM), and—as it seems to shape up—the recently launched East-West cooperative project in Vienna: *The International Institute for Applied Systems Analysis*.

10. He knows *intuitively* that his main outward tool and means for keeping economic and political power is complication; therefore he refrains from complex relationships with the people he controls. To them, therefore, he may appear as one lacking in inner complexity—which may indeed be the case for the managers below him on the power ladder.

top manager, this is still his inner energy store, that which is giving him strength, and because he is now in a position to utilize this store to plot the course of society and program other individuals below, he is still able to expand his ego-complexity. Most people, however, are fighting it out at the bottom floor of the socio-political pyramid; they are there because they lost in the race, and their day is one of complication.

Because man is inherently a complex being born of a complex environment, and because it is this complex relationship and its fruit of latent creative expansion that ensures stability in the interplay between man and nature and man and his fellow beings, the enforced complication of the modern environment results in widespread mental and societal disease.^[11]

WORK—NEVER LEISURE—IS THE KEY ELEMENT OF SOCIAL COHESION

A human being's ego-complexity and a human group's collective complexity is always mainly built up during the time spent in *work*—*i.e.*, through activity aiming at the mastery of the everyday problems of securing a life where the basic needs and functions can be fulfilled.

This is one reason why we have chosen the term “Life Necessities Society.” We are in strong disagreement with those writers—great in number—who think that the future hope for man's inner growth and liberation lies to a significant extent in a “leisure society,” a society where machines and computers do the work and leave man free to develop all his positive abilities.^[12]

An individual and social “meaningful life” will never result from a predominance of leisure and play. Even children's play presupposes a “serious life” of non-play—a life ordered by a continuous building-up of the ability to survive with security, “come what may.” (Recommended reading: Erik Eriksson's *Childhood and Society*!) I must stress, however, that this “building-up” must not be limited to the narrow end of naked physical survival. When speaking of “a life in security” in the ecological sense, I have in mind the effective protection of complexity—*i.e.*, a life with “energy to spare,” retaining the potentiality of creative activity (not to be confused with “*care-free play*”!). With this clearly in mind, it is still work (*i.e.*, the accumulation of survival security in spite of entropy) that is the one common meaningful backbone of society in any age.

Because of this distinction, the (snm) group has replaced the expression “survival strength” with “life strength” when speaking about the goal of the environmentalist movement. Securing life strength is, in the long run, the only way to secure survival strength—an idea that seems not to have occurred to the majority of modern social planners. What we find instead, is a striving for survival strength alone, the economic-political system being accepted as a given, fixed entity; the planner's job is to repair it when and where its mass of material and energetic activity is threatened with stagnation or decrease.

The focal point of this argument is the *mastery* of the problems related to life strength, the development—in the individual and in the effectively cooperating group—of the complex ability to handle every-

11. “Disease” may here be defined as “uncontrolled physical and mental reactions to blocked possibilities of gaining or keeping equilibrium.” For further study of disease-concepts of this (“ecological”) kind, I recommend Hans Selye (perhaps the most prominent pioneer of modern stress theory) and René Dubos.

12. I have the impression that, for instance, Herbert Marcuse (see his contribution in *The Dialectics of Liberation*!) tends in this direction. If this is true, I think it represents a flaw in the logic of his model of industrial society,—a flaw that may derive from Marx (who seems to come near to contradicting himself on this point in the *Outline of the Critique of Political Economy*, pp. 500-600). The opinion that post-capitalist automation may help man's liberation might be seen as an expression of Marx's typically “Judeo-Christian” view of History as a uni-directional (though dialectic) development, tending towards a final (communist) stage where man has reached fulfillment through a complete mastery of Nature.

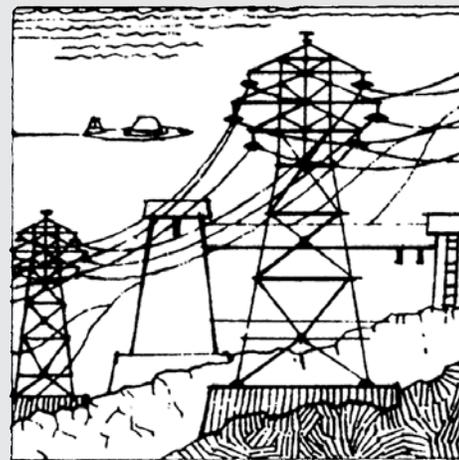
thing of importance relating to the home environment and the social organism as requirements change through the conceivable local range of possibilities. In many so-called “primitive” societies, it is this mastery that gives social prestige: A successful member of such a society possesses the very gradually and carefully evolved ability to take care of a vast range of possible threats to the ecological and social equilibrium of the local community. The leaders of such complex societies are those who, better than the others, prove their ability to take care of the *common* needs, who can draw on great resources of knowledge and inventiveness, and

who *put this to use with more communal loyalty* than the average person. This may be viewed as competition—but it is not the individual competing to take opportunity away from other individuals, as we find it most often within our present-day Western society. It is a radically different concept of competition.

The complexity—and thus the equilibrium ability—of such a society is increased if it is also quite egalitarian in its economic, social, and political structure—that is, if it incorporates open communicative channels which allow individual talents to come to the forefront and contribute to its guidance as vari-

THE TWO MENTIONED types of society are, in the more practical, political part of (snm)’s work, sometimes symbolized by the pylon (IGS) and the famous Norwegian waterfall of Mardøla (LNS). The two symbols refer to the radical contrast between the two societies in their typical ways of utilizing the return of water to the sea in that great central cycle in nature: IGS tries to transform all mountainous areas and river sheds into gigantic cisterns for the production of industrial energy, while the defenders of LNS stress the life-giving energy-cycle that the rivers are part of before industrialization, pointing to the fact that all land-based living beings stand as myriad tiny, thirsty mouths across the paths of the water on its way back, receiving it and transforming it into internal fluid environments resembling sea water—an evolutionary parallel to their original external environment. (This picture is used very vividly by Ian McHarg in his book *Design with Nature*.)

To LNS the ocean is the great mother, and the rivers are her life-giving milk glands that may be suckled by the children she has given birth to and who are now living away from her.



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ILLUSTRATIONS BY SIGMUND KVALØY SETRENG

ous needs may arise. There are many historical and contemporary societies which seem to have lost their flexibility and resourcefulness in the meeting of new ecological conditions through the loss of this kind of eco-egalitarian structure. The social and political élite of a class structure is likely to resist change in communications and control structures because that usually means a loss of power. The persons or families or class in power fortify their positions with taboos, customs, moral codes, religious systems, and laws of various kinds that may originally have had a sound ecological justification, but which also effected the ruling group's

ascension to power. At one time this group may have functioned in line with the common good, but such a political élite usually lives quite protected from the direct threats of ecological change, and so tends to react belatedly; it is a "dull sensory organ" of the society it controls. For these two reasons—of power distribution and of ecological sensitivity—democracy seems to have a strong ecological justification. We might say that a society's *external equilibrium*—its ability to live in balance with its natural resources—is dependent upon its *internal equilibrium*—its effective combination of loyalty and individuality.

The hydroelectric utilization of the earth's rivers within IGS usually means an increase in man's power to distribute over large areas his destruction of natural diversity and stability (increasing the earth's entropy), and an increase in his ability to add demands for tapping other—and non-renewable—energy sources. The pylon, with its simple and rigid geometry and its ability to withstand only one particular type of simple strain is a useful symbol for underlining this aspect of IGS's relation to nature.

The Mardøla waterfall, surrounded by the lush forest and undergrowth dependent upon its incessant spray, is a suitable reminder of the stability-giving complexity that characterizes the evolution of life (its ability to decrease entropy; its creative force) on this planet—a complexity that, on land, is dependent upon rivers and creeks in natural flow.

To put it in simple and strong colors: The pylon is a symbol of "life frozen to rigid death"; the natural waterfall symbolizes the unfathomable potentialities of the life process itself.

The Mardøla waterfall has a special relation to

the work and expansion of (snm). It is one of the highest waterfalls of the earth and drops straight from a high mountain lake into an extremely lush climax forest near another lake, vast and mirror-clear. It gives water to the exceptionally rich farmland of the Eikesdal valley. The Mardøla river is now being diverted from the valley, and will, from 1975, help American aluminum interests to survive as an important economic and political factor in Norway. In the summer of 1970, (snm) staged a five weeks' direct non-violent action to stop this hydroelectric project, keeping a tent camp pitched across the path of the earth-moving machines in the Eikesdal mountains. It was the first successful action joining farmers and city dwellers in fighting the IGS transformation in Norway (although it did not manage to stop the industrialization of Mardøla itself), and it largely intensified the Norwegian ecopolitical debate; among other effects, it contributed to the opinion build-up that resulted in Norway's "No" to joining the European Common Market (conceived by many Norwegian to be the clearest example in Europe of the IGS trend).

Our best example of a society showing disequilibrium in these respects is of course Western techno-capitalist society. Some of the Sherpa villages of Himalaya offer opposite examples of societies where the interdependency of external and internal equilibrium may be discerned through a vast range of qualitative levels.

One major factor in the shaping of the equilibrium quality of the Sherpa society is undoubtedly its isolation, demanding self-sufficiency and self-resourcefulness. Another important factor is its comparatively harsh set of natural conditions, demanding a great variation in ways of utilizing nature's resources, complex and well-programmed seasonal rhythms, and a high degree of effective cooperation. This suggests one reason why Sherpa and similar societies should be regarded as a vital source of knowledge to us today: The ecocrisis is about to create on a global scale conditions similar to those that Sherpa society has long had to cope with—scarce and hard-to-get-at resources, and isolation in the sense of “spaceship Earth.” These changed conditions will also make themselves felt in the near future among the governing élites of our world—although not through any “inner revelations” among the members of these groups in power, but through naked material pressures and accompanying political upheavals. Time is also running out for all those Western intellectuals trying to outdo each other in the publishing market with hopeful fantasies on behalf of next generation's leisure society.

After the gigantic experiment of IGS, man will again have to seek equilibrium—and creative complexity—through his own hands' work on the earth, or else be buried under its surface.

COMPLEXITY AND UNITY VERSUS COMPLICATION AND DISUNITY

The Sherpa society is an effectively long-lived Life Necessities Society.^[13] It is a good illustration of the relationship between complexity and *unity*: Its unity—its wholeness—is an expression of its complexity, and its unified structure of complex relationships gives it flexibility and, thereby, survival strength. This multi-factored inter-relatedness corresponds to what systems ecologists and communication theorists call “a structure with high information content.” (Although information theory in its original and strict sense operates solely within the level of complication [Shannon and Weaver], it represents one of the takeoff points within Western science for a break with the tradition of analytical atomization of reality.)

In keeping with the view outlined here, we must reach the conclusion that many tiny, “primitive,” non-technical societies are complex, while the modern engineering masterpieces of the Western city societies are not so complex;^[14] in them, we mistake complication for complexity. Not only is this social structure dominated by one qualitative level—complication—it is also very fragmented: many relationships that are functional and tight in the “primitive” society are here very weak or nonfunctional. People representing the environmental movement often show a lack of insight when they speak about the value of getting away from the “complexities” of the city and into a small rural community to lead a “simpler, less complicated life.” If you are wealthy, you may of course while away your days in lazy simplicity in a rural village, but you would at the same time gradually

13. *I.e.*, within a *quite* wide range of ecological calamities! It is now meeting one that seems to be outside this range: Western big-industry tourism. The disruptive, wild-growth effect of this outcrop of IGS reminds me of runaway cancer cells, leaving the original tumor along the blood vessels to start disruptions of equilibrium control in new localities of the organism. In medical language, this is called *metastasis*—another suitable word for eco-imperialism of the IGS kind.

14. This is a conclusion directly opposite to the one reached by one of the pioneers of modern theoretical ecology, Ramon Margalef, who I think offers a good example of what happens when a biologist without any experience in sociology and anthropology casts his conceptual fishing net over human society. It is also tempting to say that theoreticians like Margalef are not neutral observers in the political and ideological sense; what they say could never have come from a person with a background in LNS, nor in the lower classes of IGS. If you live in a big city slum, it is difficult to look upon yourself as a contributor to enhanced complexity.

break down your ego-complexity and thus your ability to live in creative equilibrium with your outer world—the world that you *are* part of, willingly or not. *Taking care of oneself* as a working member of a small-farm community is a good basis for expanding complexity, and also means getting nearer to a meaningful life.

We see today a great drive to centralize people from the rural communities and the small towns into the great metropolis. The planners are at work, creating vast suburbs from scratch, pouring people into the quickly finished product. It is not taken into consideration that these people come from different backgrounds and different kinds of communities, and that they arrive with their “roots in mother earth’s soil” torn off. They are still expected to start functioning together in this drafting-board environment as a single balanced society! The whole burden of creating social and environmental complexity for a large social unit is here on the shoulders of a few experts with very nearly the same (and quite narrow) academic training. Even if this training were not one of learning that the world consists of units of complication, this task would be formidable; *with* such training it is certainly impossible.

Social complexity is built up very slowly over many generations, and primarily in small societies, where different survival problems and challenges in their various ramifications and complex inter-relatedness are not far removed and are faced in such a way that they can, in general, be grasped and mastered by anyone in that society and place, acting in finely evolved cooperation.

It is now high time that we teach our children to *look through* our society’s glossy coat of surface diversity—to be able to see that it hides a skeleton of complication, a mechanical ghost adorned with dashes

of “Disneyland effect” to keep people breathless and thrilled. Likewise, we must teach them to look through the outward appearance of “primitivism” in societies outside IGS—to see the extremely advanced complexity of intrasocial behavior and interplay with nature that often characterizes such societies. *Before* the crisis has become a catastrophe we should try to give them the ability to understand and to feel that the introduction of a car or a ski lift or a supermarket into a community may actually mean an *increase* in primitivism.

Our top-level experts are forever furnishing our top-level politicians with plans and projects in which people are treated as numerical quantities. Because these projects are viewed by these leaders as problems in complication, it remains hidden to them that they are dealing not only with particulate entities, but with systems that can be understood only as wholes. When they are “summing up” 10,000 new inhabitants in a new suburb,^[15] they act as if they were assuming that these 10,000 will behave exactly as they did as members of their former communities; “a person is a person!” Instead, what happens is that these people start interacting in a radically new way because they are part of a radically new structure; we get not only a quantitatively larger and different society, but something much more consequential: a *qualitatively* different one. Because of the qualitative shift, it is misleading to speak of having “moved a community,” or even to talk of the communal members as being the same persons. A person never exists in a vacuum; he is always an expression of the peculiarities of the social and ecological system he lives within.

This perspective cannot be grasped without treating society as a whole as a *basic unit*, and *this* unit yields to quantitative treatment only in a very limited

15. Or in a new “super-ecology town” of the kind we are now getting near Minneapolis and in Arizona, where the idea of repairing existing cities is finally abandoned as futile, and “creating all anew” is the great formula. The fashionable, pseudo-ecological phraseology accompanying such experiments reveals the IGS-background of the authors very clearly. Extreme examples are Marshall McLuhan with his view of electronic systems as extensions of man’s sensory organs and as the communicative networks of “global villages” to come, and Buckminster Fuller, who is systematically violating one of the basic hypotheses of social ecology in planning a world where homes are standard units easily movable anywhere—their content of human beings trained to happy acceptance of a life with no roots. The great popularity of these two is of course politically very welcome to the IGS establishment!

way—so limited, in fact, that its results in most cases would be uninteresting.

It should also be noted here that studying societies as basic units (of the ecosystem type) entails a view of *causality* that breaks with Western scientific tradition. In order to predict the behavior of such units, it is necessary to take into account that they are *goal-seeking*: their goal is ecological equilibrium—which will, however, mean very different structures under different conditions. The built-in *tendency* of a system cannot be mapped out by the traditional means—by breaking the system up into its *component parts* and limiting causal explanation to the interaction of *these parts* in the *past*. Neither can a dynamic system be *observed*—one has only static glimpses of its parts—and it cannot be the object for scientific experimentation. Empirical work within human ecology *presupposes* an equilibrium model; *i.e.*, a logical construction. In this way, ecological science is “less empirical” and “more deductive” than what has been demanded by Western scientific method for the past two- to three-hundred years. It is even tempting to say that research based on the ecosystems model of the world is restoring *rationalism* to a more respectable position, and simultaneously dethroning empiricism as man’s guiding star through the night of phenomenal turmoil. It has a slight taste of paradox when we consider that ecology at the same time tries to restore to honor the *sensual* world—stressing that our own eyes and skin are in many ways far superior to scientific apparatus and for scientific purposes.

COMPLICATION AND DISUNITY—IGS’S GRAND TOOL FOR POLITICAL POWER TURNED INTO A TIME BOMB

What are said to be measures ensuring complexity and unity are most often a cover for treating humanity and its resources as disjointed units. The political effect of this is (1) a gradual destruction of the possibilities of effective cooperation in groups of potential political opposition, and (2) a blocking of a corresponding aware-

ness of what is happening. The shaping of modern society into a one-sided structure of complication is on the one hand serving the production rationale of technocapitalism; on the other hand it is enforcing a streamlined version of rigid class structure upon its human subjects. The majority inhabiting the bottom sector of the IGS power pyramid *cannot be allowed* to develop an ego-complexity anywhere nearly as strong as their leaders, because that would mean their effective refusal to function as quantities; then they could not be programmed, and statistical forecasts would break down all the time. The most functional citizen of IGS is one with no protruding edges—one who has the slippery shape of a simple disc—well suited to slide through the centrally designed pipe system of modern techno-society.

Should this “pipe system” of IGS break apart, however—for instance through a shift in the world’s political power structure with a corresponding shift in the network for distribution of materials and energy, as a result of war or drastic bio-ecological change—if such a thing should happen, then the standardized structure of IGS and the lack of complexity in its individual members would immediately show up as extreme ecosocial vulnerability: The majority of its members, trained to function as “simple discs,” would reveal their complete dependency upon the tubular guidance of the “pipe system” to which they had been honed and fitted. Their lack of individual self-reliance and resourcefulness, as well as their corresponding lack of ability to cooperate for common social goals, would be catastrophic in the qualitatively new situation.

ECOPOLITICAL CONCLUSION

There are growing numbers of persons and study groups who feel that there can be no effective solution to the crisis through using the existing control bodies or through putting more experts and specialists into central governing or advisory positions. As long as we possess the present educational schemes and recruiting procedures, these are—

most of them—completely part of the dynamism of IGS.

Instead, we must seek to educate *generalists*—people who are rich in ego-complexity, who have some knowledge within many fields, who are trained in *inter-disciplinary* reasoning in relation to the problems of *whole* systems and societies, and who are able to transmit all this in a language that the non-academicians (the world's vast majority!) understand. In order to act effectively in accordance with this latter, extremely important point, it is necessary for the person under training to relate his insight effectively and understandably to the everyday life struggle of the people. To accomplish this, I think it is necessary that a major part of the students of generalism be recruited among young people with backgrounds outside or on the fringe of IGS; otherwise their grasp of problems is apt to be tainted by that system.

The main idea here is to disconnect our schools (including the universities) from the interests of the IGS leadership and connect them instead to the interests of the people—*i.e.*, to the oppressed and manipulated majority today constituting the lower strata and colonial sectors of the IGS power pyramid.^[16]

In order to reverse the eco-crisis, our main goal must lie in the direction of mobilizing into new widespread alliances for political action those masses who most directly suffer from the crisis. The leaders of our societies—either in private industry and business, or in national and international administration and politics—live in ways that protect them from direct and vivid contact with the crisis. At the same time they have much to lose by a systems shift, while the masses have much or everything to gain, and so—at least in the third world—are more free in relation to IGS.

An effective *ecopolitics* today points in the opposite

direction from what most writers and speakers within the field of international relations are relying upon as political means to the attainment of security and stability. In contrast to them, we should strive for a *breaking up* of the type of “peaceful coexistence” that we now seem to be achieving in the Euro-American sector of the world. The control system that is now in the making in the offices and assemblies of top-level politics constitutes a further freezing of the eco-critical power structure.

In our western midst, the Icelandic nation offers us today a useful illustration of what we are up against and of the way we must go: We have here a nation that would be destroyed, together with its fisheries, if it relied upon the “peaceful coexistence system.” Instead, we see a small, comparatively egalitarian and united community defying the “European system” in fighting for the preservation of its own resources of life necessities for the generations to come. It is, simultaneously, fighting to preserve a natural resource on behalf of mankind—and showing that the only reliable guardians for the food resources of our grandchildren are those whose own lives are directly bound up with them today.

Communities fighting in this manner, and the starving and suffering millions of the third world—all those whose own skin is burnt by the heat of the industrial-growth ovens—are today the only effective sensory organs of the global community. It is from *their* angle we must re-discover the world. Their suffering, their anguish, the futility of their effort as long as IGS persists—these facts must tear the veil from our eyes and pull the plugs out of our ears. Their struggle to gain freedom must become our own struggle, and their direct, everyday toil to save morsels of soil and keep the earth green to sustain life lastingly must become our own point of departure into a new world.

16. In Norway (snm) is, among other things, attempting a move in this direction through the creation of *Environmental Schools*, located in some mountain valleys and on some islands off the coast of North Norway—*i.e.*, in some communities that are as yet only slightly affected by IGS. These schools are planned so that they will not clearly be distinguished from the local communities where they are situated; besides some “eco-generalists,” most of the teachers are to be local farmers and fishermen and their wives, and will treat the students as they would their own sons and daughters. Another (snm) group project in the same general vein was started in 1971 with a three months' stay in Nepal and consists of intensified studies of equilibrium societies of different cultures, these societies being seen as sources of advanced eco-social knowledge. A second group is in Nepal this year. (A one hour 16 mm film from the 1971 journey is available. It focuses on equilibrium relations in an isolated Himalayan village, contrasting these with corresponding disequilibrium relations in Western society. The film has English spoken commentary.)