

The Roots of Ecological Crisis

by Gregory Bateson (1972)

Summary: Other testimony has been presented regarding bills to deal with particular problems of pollution and environmental degradation in Hawaii. It is hoped that the proposed Office of Environmental Quality Control and the Environmental Center at the University of Hawaii will go beyond this ad hoc approach and will study the more basic causes of the current rash of environmental troubles.

The present testimony argues that these basic causes lie in the combined action of (a) technological advance; (b), population increase; and (c) conventional (but wrong) idea about the nature of man and his relation to the environment.

It is concluded that the next five to ten years will be a period like the Federalist period in United States history in which the whole philosophy of government, education, and technology must be debated.

We submit:

(1) That all ad hoc measures leave uncorrected the deeper causes of the trouble and, worse, usually permit those causes to grow stronger and become compounded. In medicine, to relieve the symptoms without curing the disease is wise and sufficient if and only if either the disease is surely terminal or will cure itself.

The history of DDT illustrates the fundamental fallacy of ad hoc measures. When it was invented and first put to use, it was itself an ad hoc measure. It was discovered in 1939 that the stuff was an insecticide (and the discoverer got a Nobel Prize). Insecticides were "needed" (a) to increase agricultural products; and (b) to save people, especially troops

overseas, from malaria. In other words, DDT was a symptomatic cure for troubles connected with the increase of population.

By 1950, it was known to scientists that DDT was seriously toxic to many other animals (Rachel Carson's popular book *Silent Spring* was published in 1962).

But in the meanwhile, (a) there was a vast industrial commitment to DDT manufacture; (b) the insects at which DDT was directed were becoming immune; (c) the animals which normally ate those insects were being exterminated; (d) the population of the world was permitted by DDT to increase.

In other words, the world became addicted to what was once an ad hoc measure and is now known to be a major danger. Finally in 1970, we begin to prohibit or control this danger. And we still do not know, for example, whether the

human species on its present diet can surely survive the DDT which is already circulating in the world and will be there for the next twenty years even if its use is immediately and totally discontinued.

It is now reasonably certain (since the discovery of significant amounts of DDT in the penguins of Antarctica) that all the fish-eating birds as well as the land-going carnivorous birds and those which formerly ate insect pests are doomed. It is probable that all the carnivorous fish will soon contain too much DDT for human consumption and may themselves become extinct. It is possible that the earthworms, at least in forests and other sprayed areas, will vanish with what effect upon the forests is anybody's guess. The plankton of the high seas (upon which the entire planetary ecology depends) is believed to be still unaffected.

That is the story of one blind application of an ad hoc measure; and the story can be repeated for a dozen other inventions.

(2) That the proposed combination of agencies in State Government and in the University should address itself to diagnosing, understanding and, if possible, suggesting remedies for the wider processes of social and environmental degradation in the world and should attempt to define Hawaii's policy in view of these processes.

(3) That all of the many current threats to man's survival are traceable to three root causes:

(a) technological progress

(b) population increase

(c) certain errors in the thinking and attitudes of

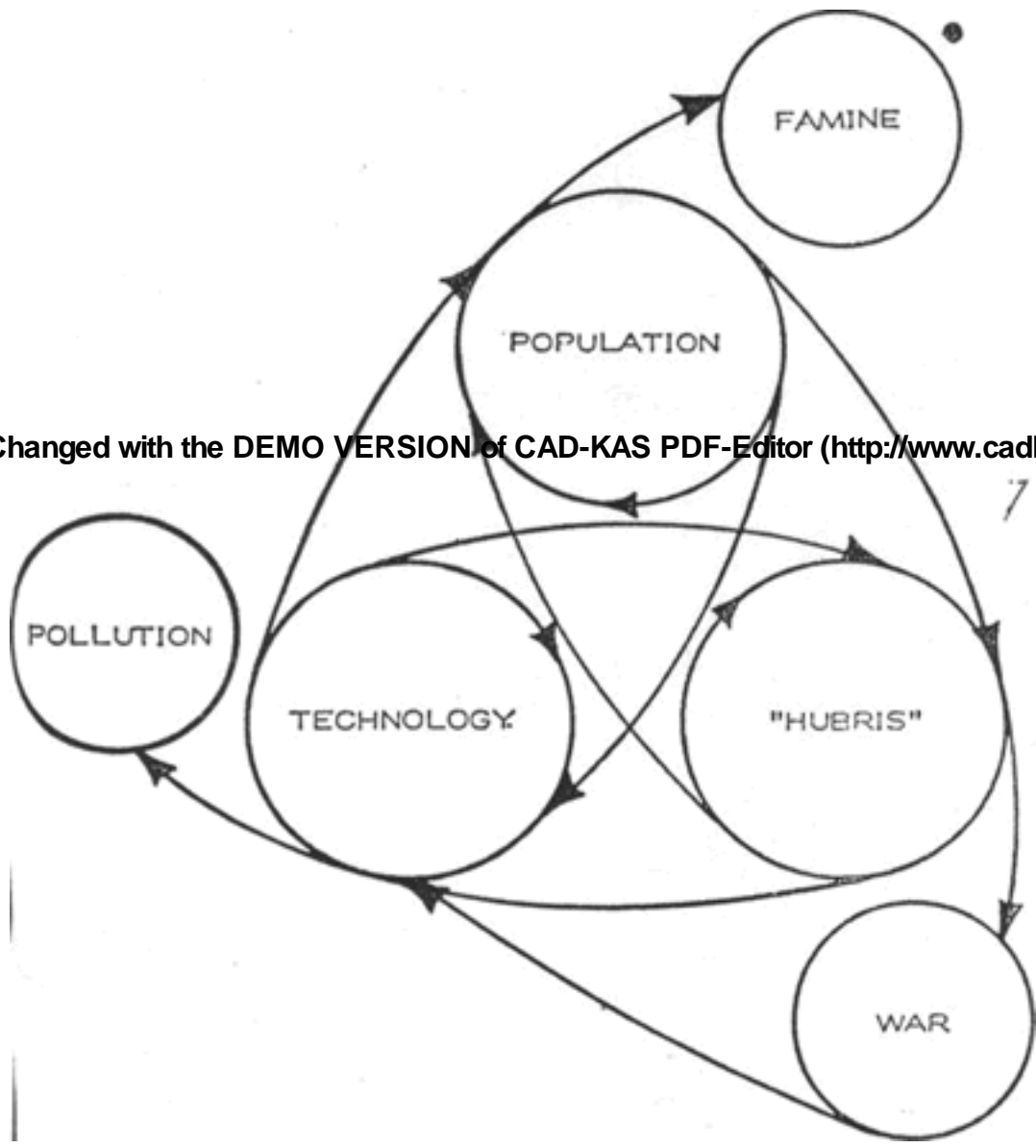
Occidental culture. Our "values" are wrong.

We believe that all three of these fundamental factors are necessary conditions for the destruction of our world. In other words, we optimistically believe that the correction of any one of them would save us.

(4) That these fundamental factors certainly interact. The increase of population spurs technological progress and creates that anxiety which sets us against our environment as an enemy; while technology both facilitates increase of population and reinforces our arrogance, or "hubris," vis-à-vis the natural environment.

The attached diagram illustrates the interconnections. It

will be noted that in this diagram each corner is clockwise, denoting that each is by itself a self-promoting (or, as the scientists say, "auto catalytic") phenomenon: the bigger the population, the faster it grows; the more technology we have, the faster the rate of new invention; and the more we believe in our "power" over an enemy environment, the more "power" we seem to have and the more spiteful the environment seems to be.



Changed with the DEMO VERSION of CAD-KAS PDF-Editor (<http://www.cadkas.com>).

Similarly the pairs of corners are clockwise connected to make three self-promoting subsystems.

The problem facing the world and Hawaii is simply how

to introduce some anticlockwise processes into this system. How to do this should be a major problem for the proposed State Office of Environmental Quality Control and the University Environmental Center.

It appears, at present, that the only possible entry point for reversal of the process is the conventional attitudes toward the environment.

(5) That further technological progress cannot now be prevented but that it can possibly be steered in appropriate directions, to be explored by the proposed offices.

(6) That the population explosion is the single most important problem facing the world today. As long as population continues to increase, we must expect the continuous creation of new threats to survival, perhaps at a rate of one per year, until we reach the ultimate condition of famine (which Hawaii is in no position to face). We offer no solution here to the population explosion, but we note that every solution which we can imagine is made difficult or impossible by the thinking and attitudes of Occidental culture.

(7) That the very first requirement for ecological stability is a balance between the rates of birth and death. For better or for worse, we have tampered with the death rate, especially by controlling the major epidemic diseases and the death of infants- Always, in any living (i.e., ecological) system, every increasing imbalance will generate its own limiting factors as side effects of the increasing imbalance. **In the present instance, we begin to know some of Nature's ways of correcting the imbalance smog, pollution, DDT poisoning, industrial wastes, famine, atomic fallout, and war. But the imbalance has gone so far that we cannot trust Nature not to**

overcorrect-

(8) That the ideas which dominate our civilization at the present time date in their most virulent form from the Industrial Revolution- They may be summarized as:

(a) It's us against the environment.

(b) It's us against other men.

(c) It's the 'individual (or the individual company, or the individual nation) that matters.

(d) We can have unilateral control over the environment and must strive for that control.

(e) We live within an infinitely expanding "frontier."

Changed with the DEMO VERSION of CAD-KAS PDF-Editor (<http://www.cadkas.com>).

(f) Economic determinism is common sense.

(g) Technology will do it for us.

We submit that these ideas are simply proved false by the great but ultimately destructive achievements of our technology in the last 150 years- Likewise they appear to be false under modern ecological theory- **The creature that wins against its environment destroys itself.**

(9) That other attitudes and premises-other systems of human "values"-have governed man's relation to his environment and his fellow man in other civilizations and at other times. Notably, the ancient Hawaiian civilization and the Hawaiians of today are unconcerned about Occidental "hubris-" In other words, our way is not the only possible human way- It is conceivably changeable.

(10) That change in our thinking has already begun among scientists and philosophers, and among young people. But it is not only long-haired professors and long-haired youth who are changing their ways of thought- There are also many thousands of businessmen and even legislators who wish they could change but feel that it would be unsafe or not "common sense" to do so- The changes will continue as inevitably as technological progress.

(11) That these changes in thought will impact upon our government, economic structure, educational philosophy, and military stance because the old premises are deeply built into all these sides of our society.

(12) That nobody can predict what new patterns will emerge from these drastic changes. We hope that the period of change may be characterized by wisdom, rather than by either violence or the fear of violence- Indeed, the ultimate goal of this bill is to make such a transition possible.

(13) We conclude that the next five to ten years will be a period comparable to the Federalist period in United States history- New philosophies of government, education, and technology must be debated both inside the government and in the public press, and especially among leading citizens- The University of Hawaii and the State Government could take a lead in these debates.