Can Modern Civilization Escape Self-Destruction?

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History is dotted with the relics of extinct societies, but the destruction of a society has usually been compatible with the survival of most of the individuals composing it. A society may be said to cease to exist when the institutions and values that characterize it change radically. Thus it could be said that the Roman Republic died when Octavius turned it into an empire, and today the American political system seems likely to destroy itself by abrogating its most significant characteristic, the right to dissent. While these forms of social death may be accompanied by considerable loss of life, usually there are enough survivors to form the membership of the society that rises from the ashes. In this sense every successful revolution can be looked upon as the suicide of a society, to be succeeded by the birth of a new one. Whether societies die of old age, suicide or murder, the survivors soon form a new social system. Rarely have civilizations, such as Carthage, been permanently destroyed.

Today, however, all human civilization can destroy itself beyond the possibility of rebirth for a long time to come, either through slowly poisoning the biosphere—the environment that sustains life—or through a nuclear war.

Social suicide through destruction of the ecosystem would be analogous to those forms of unintended individual suicide that are consequences of self-indulgence. In this it resembles the slow suicide of some alcoholics or heavy cigarette smokers. Pollution of the biosphere is the unwanted and incidental by-product of the incredible achievements of industrialization; it therefore presents the most immediate threat in heavily industrialized countries, but is certain eventually to endanger people everywhere. [237]

To take just one example, a subtle form of air pollution which may have the most inexorable effects is the gradual increase of atmospheric carbon dioxide resulting from industrial use of fossil fuels, on the one hand, and the progressive destruction of vegetation to make room for expanding cities, on the other. Furthermore, as nations pour increasing amounts of industrial wastes and pesticides into the seas, the day may come when they will poison plankton, a major transformer of atmospheric carbon dioxide into oxygen. In any case, the increasing concentration of atmospheric carbon dioxide affects heat and energy transfer between the earth's surface and outer space, producing alterations in the earth's climate, with unpredictable effects, such as the possible melting of the polar ice caps.

There are both perceptual and motivational reasons for our failure to grasp the gravity of the danger of slow suicide through biospheric poisoning. From a perceptual standpoint, most of the dangers are remarkably unobtrusive; in fact, they are undetectable by the senses. Radioactive isotopes and pesticides in our tissues and the slowly rising carbon dioxide content of the air cannot be seen, heard, tasted, smelt, or felt, so it is easy to forget about them. When pollut-

ants do impinge on our senses in the form of eye-burning smog or brown water, they are experienced as part of the general background of living rather than as a sharply focused threat. In this same connection, although environmental poisons are constantly increasing, the increments are very small compared to the base level, so, in accord with the well-known psychophysiological law, they do not rise above the threshold of awareness. Humans may be in much the same plight as a frog placed in a pan of cold water which is very slowly heated. If the rise in temperature is gradual enough, he will be boiled without ever knowing what happened to him.

These perceptual obstacles to appreciating the dangers created by technological advances play into strong motives for not doing much about them, based on the fact that the rewards yielded by technology are large, tangible, and immediate, while the penalties are remote and contingent. It does not take a learning theorist to know which will determine behavior. For a cigarette smoker the immediate gratification of a smoke far outweighs the probability that it will shorten his life twenty years hence. Similarly, at the social level, the prospects of increased revenue to a community from a new industry dwarf the long-term hazards to health it might create.

Looked at in another way, the cost to an individual of reducing his [238] contribution to atmospheric pollution is out of all proportion to the benefit, because the latter is spread over the entire population. The millions an electric utility company spends to purify the smoke from its power plant yield no tangible benefits to the stockholders except slightly cleaner air to those who happen to live in the vicinity. The converse also holds—the benefits an individual gains by adding a tiny increment to the poisoning of the ecosystem are obvious, while the costs to him are infinitesimal. The pleasure and convenience afforded by a second family car are vastly greater than its cost—an infinitesimal increase in danger to the owner's health produced by the mite it adds to air pollution. So one can safely predict that, despite bursts of rhetoric and enthusiasm, every concrete effort to reduce damage to the ecosystem will meet strong covert or overt resistance from those who must foot the bill.

The dangers created by these unintentionally suicidal activities are still remote and increase only gradually, so there is yet time to overcome them. Of more immediate concern is the danger of self-destruction of human society through intentional acts, except that the intention is not suicide but murder. In group conflicts the primary aim is to destroy the enemy while surviving oneself; but after the intensity of conflict passes a certain level, the drive to kill the enemy becomes stronger than that of self-preservation. In Bertrand Russell's sardonic words, humans are more anxious to kill their enemies than to stay alive themselves.[1] When this state of affairs is reached, all remaining inhibitions against killing are thrown to the wind and humans resort to the most powerful engines of destruction at their disposal. All that has saved mankind from destruction so far has been the inefficiency of even the most powerful weapons. With the creation in the past few years of enormously deadly biological and chemical poisons and, of course, nuclear weapons, this safeguard has been removed.

It is now possible for small revolutionary groups within a society to wreak enormous havoc. For example, poisons exist so powerful that small amounts introduced into a city's water supply could kill all its inhabitants. After the Chicago Democratic Convention in 1968, the news media carried a story that two hippies had attempted to "turn Chicago on" by pouring several pounds of LSD-25 into the water supply. Had they succeeded, the chemical would have been neutralized by the chlorine in the water. However, nations have stockpiled huge supplies of other undetectable [239] poisons, effective in submicroscopic amounts, which cannot be so easily inactivated—for example, botulinus toxin, one large glassful of which contains enough doses to kill everyone on earth.

The domestic danger posed by nuclear bombs is also very great. It takes only fourteen pounds of enriched plutonium, about the size of a grapefruit, to create a bomb about as powerful as that used on Hiroshima. Largely as the result of the growth of nuclear power, enriched plutonium is in abundant supply, and thousands of engineers now know how to fashion bombs

[1] B. Russell, "Can Scientific Man Survive?" *The Saturday Review,* 40 (December 21, 1957), 24.

from it. It does not require much imagination to envisage a militant radical group hijacking some plutonium and hiding bombs in major cities — one each would be enough. Even one such bomb, hidden near the nation's capitol and timed to go off during a State of the Union message, would simultaneously kill the President, his cabinet, Congress, and the Supreme Court and destroy most of Washington, thereby decapitating the federal government.

With respect to external dangers, it is common knowledge that Russia and the United States have enough nuclear weapons to destroy each other many times over and are still continuing to accumulate and "perfect" them.

So if humans are to avoid self-destruction via mutual murder, they must learn to place restraints on the violent conduct of group conflicts. This task, in the last analysis, is a politico-military one. That is, its solution depends on the creation of new institutions for handling domestic and international conflict; but students of human nature can contribute to it through bringing to bear their knowledge—still pitifully inadequate—of psychological determinants of group and individual violence, as a first step toward bringing it under control.

Like all forms of human behavior, violence has biological and environmental determinants, the latter including psychological as well as physical factors. The evidence for biological components is that certain brain centers when stimulated lower the threshold for violence, as does increase in blood levels of the male sex hormone. The evidence is clear in all infra-human mammals, and is highly suggestive in humans. It must be stressed, however, that neither of these bodily interventions automatically produce violent behavior—the proper environmental instigators must also be present.

It is also highly probable that, since human groups have been fighting each other since time immemorial, the survivors of these endless battles [240] have been genetically selected for their fighting propensities.[2] As a result, humans are very easily instigated to violent behavior by a wide variety of stimuli as diverse as physical attack, threats, insults, and a sense of grievance.

Were this all there were to the story, control of human violence would be virtually hopeless. Fortunately, however, social sanctions and group codes are more powerful determiners of human behavior than individual biological or psychological drives. During World War II hundreds of thousands of citizens of Leningrad starved to death in the midst of plenty because the abundantly available food supply happened to have a human shape—for almost every one of the inhabitants the taboo against cannibalism was stronger than the instinct of self-preservation.[3] Gandhi in India and King in the United States were able to create group standards that restrained their followers from violence in the face of extreme instigations, including direct danger to their lives.[4]

Paradoxical as it may seem, the human attribute that poses the greatest threat to survival is probably not aggression but altruism (or, as Arthur Koestler terms it, self-transcendence[5])—that is, the remarkable willingness of humans to die and kill for the sake of something greater than themselves. At the simplest level, this larger entity is the group of which one is a member. For humans, as for all social animals, the group, not the individual, is the survival unit; and when it is threatened, its members sacrifice their lives in its defense. In this, humans closely resemble baboons and are not too different from ants. But the human group gains the allegiance of its members not only because it is the biological survival unit, but because it embodies and preserves certain ideals, values, and symbols that give meaning to the lives of the group members, and this is uniquely human. When Kamikaze pilots committed suicide for their emperor, they had more in mind than the little man sitting on the throne of Japan; and when men offer up their lives for the Flag or the Cross, it is for the concepts these bits of cloth or wood represent.

Though in a war members of each side are prepared to die as a last resort, their main task

[2] K. Lorenz, *On Aggression* (New York: Harcourt, Brace & World, 1966).

[3] H. Salisbury, *Nine Hundred Days: The Siege of Leningrad* (New York: Harper & Row, 1967).

[4] J. D. Frank, *Sanity and Survival: Psychological Aspects of War and Peace* (New York: Random House, 1967), chap. 12, pp. 257-286.

[5] A. Koestler, *The Ghost in the Machine* (New York: Macmillan Co., 1967), chap. 15, pp. 225-266.

is, of course, to destroy the enemy. Enemies pose real [241] threats and must be fought, but the crucial question is: what is there about enemies that removes all restraints on their killing each other? As with self-transcendence, this disinhibition is made possible mainly by the capacity of humans to symbolize.

Konrad Lorenz has made a persuasive case that, with the possible exception of rats, humans are the only creatures with powerful attack equipment who do not have inhibitions against killing members of their own species.[6] It may well be, however, that humans do have such inhibitions but escape from them by using their conceptual powers to define enemies as nonhuman in some crucial way. The enemy never consists of individual fathers, brothers and sons but is a symbolic entity that partakes of the nonhuman and is absolutely evil. Thus the word "enemy" is characteristically preceded by "the"—not "our"—as if to imply that his evil qualities make him a threat to all humanity.[7] Since each society believes its own world-view or ideology to be the only true one, persons who hold a conflicting one are seen as either irrational or wicked, but in either case not as human as we are.

The ideological component is both an important instigator of wars and a cause of their destructiveness. Groups perceive each other as enemies when they find themselves striving for goals that one can obtain only at the other's expense. These are often material—domestically, a greater share of the society's goods; in international affairs, the resources, territory, or manpower of another nation—but they always have an ideological overlay. Abstract ideals are always invoked to justify resorting to war. The American government justifies its intervention in Vietnam in the name of preserving Freedom; the North Vietnamese claim to be struggling against Imperialism. Ideological formulations may serve to cloak other less acceptable aims—for example, simple grabs for power—that might dampen the fighting ardor of those called upon to risk their lives in battle. The transparent hypocrisy of the professed ideological aims of the United States in Indochina has undoubtedly intensified the resistance of the young to this war.

Fights over possessions or territory have a natural end-point, but fights for freedom, justice, democracy, communism, and the like do not. The only way to be sure an idea is dead is to kill every last person who holds it.

In addition, ideologies are often more important sources of [242] psychological security than possessions, so a challenge to them is a greater threat. Because of their power to conceptualize, humans are forced to recognize the insignificance of their individual lives, which appear to be nothing more than brief, tiny flashes of experience in a universe that does not seem to care. This is intolerable to many people, and to counteract it they create ideologies which give meaning to existence. For them, the loss of their ideology, as might follow defeat by a group that maintains an incompatible world-view, may be worse than biological death, so they prefer to die.

The prospect that man will destroy himself either through heedless self-indulgence or through mutual suicide in the guise of mutual murder is a gloomy one, and in all conscience it is hard to find much grounds for cheer. However, there is some comfort in the old adage that while there is life there is hope, and with respect to the international scene, some straws in the wind are faintly encouraging. For one thing, strategic nuclear weapons, while they have not prevented wars, seem to have contributed to the growing ineffectiveness of violence as a means of resolving political disputes. The danger that any local war may escalate into a world conflagration may partly account for the fact that no war has been fought to clear-cut victory since World War II. These weapons have also forced a new concept on the nuclear powers—deterrence by weapons whose *sole* purpose is to prevent war. In the past, weapons of deterrence were used to wage war if the threat of their use failed. Strategic nuclear weapons can be used only to threaten—they cannot be used without destroying the user. The policy of mutual nuclear deterrence is wildly expensive and has created a highly unstable mutual menace, which raises the hope that it will become so burdensome and so obviously absurd that it will

[6] Lorenz, *op. cit.*

[7] J. G. Gray, *The Warriors* (New York: Harper & Row, 1969).

eventually lead to moves toward disarmament.

The beginnings of the decline of the sovereign state and the emergence of world government, on which the preservation of peace must ultimately depend, are also discernible, even though in many ways the power of certain nations has never seemed more absolute. On the one hand, even the largest and richest nations are increasingly incapable to perform one of their major functions—protecting the security of their citizens. On the other, the service functions of the United Nations, which contains the germ of world government, are becoming increasingly valuable, especially to the smaller, underdeveloped nations. The core of its strength lies not in its political arms—the Assembly and the Security Council—but in the World Health Organization, the Economic and Social Council, the World Labor Office, and the World Monetary Fund. The allegiance of citizens to their [243] government depends on its perceived ability not only to provide security but also to enhance the general welfare. The United Nations is beginning to do the latter for many people throughout the world. The creation of effective international peace-keeping institutions is a task outside the scope of psychology; but the workability of these institutions depends on changes in the attitudes of the individuals composing national populations, and here students of human behavior may have something to offer. Perhaps one of their major contributions may be to elaborate how the same technological advances that have created the new dangers to survival have also created new means of mobilizing psychological forces to combat them.

First of all, technology has provided new constructive alternative means for satisfying the needs of individuals formerly met by violence, notably the need of young men to establish their masculinity by testing themselves against adversity, whether the adversary be natural or human. In the past the warrior represented the epitome of the virile, courageous man, and still does, but some men have achieved the same sense of identity through risking their lives on cliffs or in gliders, and today some of the antics of the violent student groups seem to be at least partly motivated by the same need.

New possibilities for meeting some of these needs have been provided by the advent of the Space Age. Space travel abounds in opportunities for heroism and self-sacrifice and spacemen are the new heroes.

Outer space also provides a new arena for constructive international competition—constructive because, whatever its military implications, the conquest of space is sensed as a project of all mankind and people everywhere share in its victories and defeats. Russians and Americans sincerely congratulate each other on new space triumphs and share the grief over tragedies experienced by spacemen of either nation. Practically the whole world breathlessly followed the perilous journey of Apollo 13.

To be sure, only a few can actually make space flights, but thanks to the human capacity for identification, millions of youngsters gain vicarious satisfactions by identifying with them, just as they do with star athletes. Obviously outer space, the ocean floor, and other new realms of competition and yet-to-be-discovered adventure can provide only a small part of the needed substitutes for violence, but their potentials are considerable.

Modern technologies also make possible a rapid amelioration of the conditions of life that instigate violence, which can be summed up for our purposes by the term "frustration." This requires, first of all, a sharp check on the rate of growth of the world's population, since it is impossible [244] to satisfy expectations for a better life as long as new mouths gobble up gains faster than they can be achieved. One of the most hopeful new technological advances, therefore, has been the invention of cheap, reliable methods of birth control which have become technologically feasible for the first time, and still more effective methods are on the way.

Finally, technology has created powerful new ways to cultivate the sense of world community—the recognition by all the world's people that, to use Adlai Stevenson's phrase, they are all travelers on the same crowded spaceship, a recognition which at present very few humans possess. A dream of philosophers and divines for millennia, but never more than a dream, the Brotherhood of Man has suddenly come within human grasp.

I have suggested earlier that humans, like other predators, do have inhibitions against killing their own kind, whom they define as mem-

bers of their own group. Without such inhibitions social living would be impossible. These inhibitions find expression in, and are powerfully supported by, laws and institutions for their enforcement, but these work only to the extent that persons under their dominion perceive themselves as members of the same community. If they do not, they no longer feel bound by its laws. Today we are witnessing this phenomenon in the United States, especially among Negro poor, on the one hand, and affluent, educated youth, on the other, both of whom for different reasons feel alienated from the power structure and lack confidence in its institutions.

Just as domestic tranquility in the United States depends on restoring the sense of community of all Americans, so world peace requires the creation of a sense of community of all the world's peoples transcending their national allegiances.

To achieve this goal, at the individual level nothing is as effective as personal contact, and today's cheap mass transportation has made possible personal meetings of people from different countries on a hitherto undreamed of scale. Of course, personal contacts can exacerbate misunderstandings as well, but much is being learned about how to increase the chances that they will promote mutual good will. As an example of what is now feasible, a practical plan for interchanging tens of thousands of Russian and American high school students to attend each other's schools for a year can be activated at any time that both nations agree to do so.[8] The youngsters would be especially suited to promote mutual understanding [245] because they are at an impressionable age in which they readily form friendships, and are too young and inexperienced to be good spies, and so would be less likely than adults to arouse the suspicions of their hosts.

But the most powerful new potential for improving international attitudes lies in the electronic mass media, especially the transistor radio and television. These jump cultural and literacy barriers and have an emotional impact far exceeding that of the written word. As an impetus to the fight against pollution and a means of fostering a sense of world community, the photos of the living Earth from Apollo 12 are worth thousands of articles and speeches.

The power of television to influence behavior may be illustrated by some examples. An article that appeared in a journal with 15 million readers elicited seventy-five letters of comment—the same points made on a television discussion program elicited one thousand letters in a week. A broadcast on chemical and biological warfare paved the way for the Presidential renunciation of biological weapons and a pledge of no first use of chemical ones.[9] Examples could be multiplied indefinitely.

Television, properly used, can break down stereotypes, restore individuality to members of depressed groups, and force their plight on the attention of and consciences of dominant ones. The television series on hunger in America gave a powerful impetus to the passage of food legislation stalled in Congress.

By bringing the realities of the Indochinese war into the living room, television has made it difficult for Americans to maintain the stereotype of the enemy as nonhuman and has undoubtedly contributed to the growing revulsion against this war, reflected in the precipitous drop in the sale of war toys, and the mounting pressure on the government for bringing our men home. In short, by individualizing members of other groups and making their aspirations and sufferings as vivid as one's own, it can mobilize concern, compassion, and other feelings of human solidarity to an extent and degree never before possible.

Of course, mass electronic communication is only a means. It can be used to heighten as well as to reduce group enmities and it is powerless to resolve the conflicts of interests underlying them, but its potentials for fostering international attitudes that increase the chances for peaceful solutions of such conflicts have not even begun to be exploited.

Finally, modern science and technology have created opportunities for [246] activities at the group level which, by improving the attitudes of groups toward each other, will inevitably produce similar changes in the attitudes of

[8] S. D. James, "Exchange Plan Gains in Acceptance," *War I Peace Report* (October, 1964), p. 15.

[9] N. Johnson, "Big Brother Is Watching You," *The Key Reporter,* 26 (Spring, 1970), 3.

the individuals composing these groups.

Social psychologists have shown that the most powerful antidote to enmity among groups is cooperation toward a goal that both groups want but neither can achieve alone.[10] At first glance survival would seem to be such a goal since all people desire it and its achievement requires international cooperation. Under some circumstances, however, survival takes a back seat compared with the urge to destroy the enemy. Moreover, the long-term measures, required for national survival, such as general disarmament, appear to increase the short-term risks of destruction by an enemy, so mobilizing the urge to survive works both ways.

Modern science, however, has created many opportunities for cooperative activities among nations to attain goals that all of them want but none can achieve alone. We know from the experience of one such activity, the International Geophysical Year, that this fosters habits and attitudes of cooperation which gradually become embodied in institutions. Scientists have devised dozens of such projects which can be activated as soon as the world's leaders are willing.

To recall the other major threat to human survival, destruction of the environment, combating pollution provides an ideal goal for international cooperation. The threat it presents is worldwide, and since problems cannot be solved on a scale smaller than that on which they arise, pollution can be overcome only by worldwide cooperative actions. It makes no difference, for example, where DDT inds its way into the ocean since oceanic creatures everywhere absorb it, and radioactivity spewed into the atmosphere from any source circles the globe. Moreover, a cooperative attack on pollution, in contrast, for example, to an international effort to halt the arms race, involves no risks. While certain outcomes of negotiations might be financially more advantageous for some groups than others, the losers would not be endangered and they would be better off than if no agreement had been reached. Persistent rumors that "Soviet and Western representatives have been holding secret discussions on the establishment of a large scale, internationally staffed 'think tank' to study common problems of industrial societies"[11] suggest that this very hopeful form of international cooperation may not be far off. [247]

For the first time, in short, we have the means to create a sense of community among peoples of different nations, and we must do so if mankind is to survive its own destructive ingenuity.

To conclude, from a philosophical viewpoint, for the first time humans have taken the power of life and death into their own hands. We cannot prevent death, of course, but we are learning to postpone it—how long, nobody knows. It is conceivable that the average life span may go up to 150 years as we learn to combat not only diseases but the aging process. Although how much we can prolong life is uncertain, it is perfectly clear that we can drastically shorten it. Barring a cosmic accident, if the human race is destroyed in the foreseeable future, it will be by its own hand, not by natural forces beyond its control. This may in part account for the gloom and despair expressed by so many contemporary poets and playwrights, who keep hammering away on the related themes that life is meaningless and absurd, a kind of bad joke, and that man is capable only of making himself and his fellows miserable. Could such viewpoints spring in part from a feeling of terror at our inability to live up to the appalling responsibilities of our new power? In any case, while this power is frightening, it is also hopeful. We have succeeded in subduing a host of natural dangers whose origins were initially obscure. The dangers that face us today are man-made, and many of their causes are well known. The remedies, unfortunately, are only beginning to emerge, but at least we know that their potential exists for the first time. By exerting every effort along the lines I have mentioned (and along many others I have not been able to imagine), humans may yet be able to avert race suicide and move forward to enjoy exciting new adventures and possibilities for fulfillment.

[10] M. Sherif and C. W. Sherif, *In Common Predicament: Social Psychology of Inter-group Conflict and Cooperation* (Boston: Houghton Mifflin Co., 1966).

[11] D. S. Greenberg, "Soviets, West Discuss 'Think Tank,'" *Science,* 166 (December 12, 1969), 1382.