ly good variety. Since it takes several years to develop a good variety, this poses a serious problem for countries, like India, where an increasing amount of acreage is being planted with only a few broadly adapted crop varieties. If these few varieties become susceptible to an epidemic, plant breeders would not have enough time to help even if they had all the genetic resources in the world. In spite of this known potential danger of monoculture over a large area, there has been, and still is, a growing campaign to plant more and more acreage with a single variety of a high-yield crop; genetic heterogeneity, a potential deterrent to large-scale epidemics, has been completely ignored. There is already growing evidence that these high-yield varieties in India are showing signs of disease susceptibility.

This problem can be avoided if several varieties, preferably equally good but with different genetic backgrounds, are grown either simultaneously or in alternation. Also, different varieties of crops should be developed for different localities. This would slow down the monotonic buildup of any pathogen specific to any one variety.

If an increasing amount of acreage continues to come under the essentially monocultural scheme of the so-called Green Revolution, the potential danger may become a reality. Those involved in promoting and making the Green Revolution a success should also start worrying about its potential danger before it is too late. Any failure to do so may mean that the price for the initial success of the Green Revolution will be paid in terms of the very human misery it had intended to eliminate.

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The need for a concerted effort to preserve the potential genetic variability of our agricultural stock is indisputable. Unlike most other natural resources, the value of the genetic message is in information, which under certain circumstances, is endlessly reproducible. Hence to save a population, one need only save an accurate genetic sample of it. It is unfortunate that any such efforts must be justified with anthropocentric motives, because application of this concept has far wider possibilities.

The effects of "genetic erosion" are not confined only to plant lines in which man has a clear and vested interest, and, since there are not always means to estimate a genotype's usefulness, this should not be the sole criterion on which a judgment is based. The dangers of allowing a general genetic impoverishment to occur are great, especially if we do not understand the whole situation. It would be irresponsible to bind future generations to irreversible commitments which we make by default.

Why could we not devise measures to prevent the loss of unique animal lines as well? Our present knowledge of cryogenic preservation has already brought some technical aspects of an animal genotype bank into the realm of feasibility. Commercial animal breeders are now freezing sperm and storing it for future use. Should not endangered animal species also be afforded this protection? There is little doubt that we will someday possess the expertise to propagate almost anything artificially, but, without the appropriate initial genetic information, such abilities may be useless. A National Animal Genetic Resource Commission, whose aim would be to preserve ova, sperm, and blastulas of endangered animal species, should be contemplated.

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Voluntary or Not?

Whenever one reads articles about reactor safety and pollution dangers, a distinction is made between "voluntary" and "involuntary" risks. For example, Chauncey Starr (19 Sept. 1969, p. 1232) observes that society will not accept an involuntary risk unless it is about 1000 times less than a voluntary risk carrying the same benefits. This distinction is of great importance in decision-making. I wish, therefore, to point out that the designations "voluntary" and "involuntary" are ambiguous and may confuse the issue. There is nothing "voluntary" about my driving my car to work; there is no other means of transportation, and the same is true for many rural areas in this country and elsewhere. One might just as well state that the exposure to polluted air in a city is "voluntary," since one can move with one's family to the pure air in a small village. Of course, only a bum or a millionaire can move when and where he wants.

I believe that the real distinction is, perhaps, psychological, and the words "active" and "passive" seem more appropriate. When we are in full control of our actions, we accept greater risks. A clear example is the difference between the attitude toward risks of the driver of a car and that of his passenger, the backseat driver.

It is obvious that this significant distinction in risk acceptance needs and deserves more thought and study, and it should be better defined. Otherwise, we might arrive at invalid conclusions and faulty recommendations.

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Keynesian Theory

There is unconscious humor in M. L. Oliphant's suggestion (Letters, 30 Nov. 1973, p. 871) that we need an economic theory to get us out of the inflation as Keynes showed us how to get out of the depression.

The joke is that the inflation is largely the consequence of the doctrines of Lord Keynes. I refer to three books where this thesis is amply demonstrated (*1*).

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References

1. M. Friedman, *Money and Economic Development: The Horowitz Lectures of 1972* (Praeger, New York, 1973); F. A. Hayek, *A Tiger by the Tail: The Keynesian Legacy of Inflation* (Institute of Economic Affairs, London, 1972); R. Kahil, *Inflation and Economic Development in Brazil, 1946–1963* (Oxford Univ. Press, New York, 1973).

On Citations

Eugene Garfield (Letters, 21 Dec. 1973, p. 1198) says the "assumption that original and creative papers cite few other papers is completely contrary to fact." But perhaps the most original and creative paper (*1*) published in this century contains no references.

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References

1. A. Einstein, "Zur Elektrodynamik bewegter Körper," *Ann. Phys. Leipzig* **17**, 891 (1905).