COMMENTARY

RESEARCH ORIENTED TOWARD NEEDS

The population explosion is one of the gravest problems faced by mankind today. It worsens daily. Yet, until recently, widespread prudish attitudes stifled even its discussion and thereby postponed its solution.

Virtually all of the scientific effort devoted to human problems has been aimed at increasing life expectancy, decreasing infant mortality, preventing and curing diseases, increasing fertility of childless couples, and now even suspending animation with liquid nitrogen "embalming." On an individual basis such efforts are understandable, but on an overall basis they only aggravate an already serious problem. A diminishing death rate coupled with a population explosion makes a reduction in the birth rate our only alternative humane control. The question is "How?"

We contend that, while personal forms of contraception may be satisfactory on a personal basis, they are totally unsatisfactory as a means of controlling entire populations. If their use is involuntary (e.g., in some form of court-directed sterilization program), the administrative decisions would involve impossibly difficult moral, ethical, legal, and humanitarian problems. If their use is voluntary, it will be largely by the more enlightened, socially responsible sector—the very group that (from a eugenics standpoint) should not be discouraged from reproducing. Moreover, individual contraception involves problems of cost, knowledge, availability, memory, and very serious religious objections that are unlikely to be soon overcome.

Other proposals such as changes in tax laws and public housing policies, which presently favor large families, are being offered. They, too, will fail because their effect cannot be felt soon enough and, more importantly, they still involve individual action.

The solution is a *universally* applied means of *somewhat reducing* fertility rather than a means of contraception that is highly effective when used but dependent on individual voluntary compliance. If the application were truly universal, the ethical problem of deciding to whom to administer the treatment would be avoided. Promiscuity would not be encouraged because the chance of conception would not be eliminated. Religious objections would be overcome because the scheme would be identical in principle to the presently approved method. The system should be analogous to the fluoridation of public drinking water supplies or to the commercial iodization of table salt. Neither treatment prevents all dental cavities or all goiters, but both reduce the incidence of each.

Much more research is needed on human fertility and the factors affecting it. Here radioisotope tracers and radiation have obvious roles in discovering these factors, although, in the long run, the cure will probably be chemical treatment of something universal like drinking water. On the other hand, radiation processing during the synthesis of the chemical may be a possibility.

The point is not that radioisotopes or radiation offer the best chance to stem the population tide; they probably do not. Rather, the point is simply that perhaps every researcher, including the radiation chemists and radiochemists, would do well to examine how his profession and his own personal research might be applied to the most important problems of the day. It may seem ridiculous to imply that readers of *Nuclear Applications* can solve the world's population problem, and the example chosen may be too naive. On the other hand, how will problems get solved if they aren't discussed, and should not the most pressing problems receive the most widespread discussion? In any case, need-oriented approaches to research, and particularly those oriented to the most urgent needs, might reverse the present disastrous cutback in research funds throughout the United States.

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