

THE END OF THE POPULATION EXPLOSION

by

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Recent developments in the worldwide movement to bring runaway birth rates under control are such that it now is possible to assert with considerable confidence that the prospects for success are excellent. In fact, it is quite reasonable to assume that the world population crisis is a phenomenon of the 20th century, and will be largely if not entirely a matter of history when humanity moves into the 21st century. No doubt there will still be problematic areas in the year 2000, but they will be confined to a few nations that were too prejudiced, too bureaucratic, or too disorganized to take action sooner, or will be confined to small regions within some nations where particular ethnic, economic, or religious groups will not yet have received adequate fertility control services and information. With the exception of such isolated remnants (which may be neutralized by other areas of growth-at-less-than-replacement), it is probable that by the year 2000 each of the major world regions will have a population growth rate that either is zero or is easily within the capacity of its expanding economy to support.

The implications of these assertions for the feeding of the human race are obvious. Given the present capacity of the earth for food production, and the potential for additional food production if modern technology were more fully employed, mankind clearly has within its grasp the capacity to abolish hunger - within a matter of a decade or two. Furthermore, it is doubtful whether a total net food shortage for the entire earth will ever develop. If such a deficit does develop, it will be mild and only of short duration. The really critical problem will continue to be one of maldistribution of food among the world's regions.

These optimistic assertions are not intended to detract from the seriousness of the present population situation. Some years of acute crisis lie immediately ahead for India, China, the Philippines, Indonesia, Pakistan, Mexico, Brazil, Egypt, and other nations. Severe famines quite probably will develop within local areas of some of these nations unless emergency international measures are taken. My purpose here is to emphasize that the engineers and the agricultural technicians striving to increase the output of material goods in these nations are not working alone. Paralleling their activity is a very ambitious international fertility control program which is just starting to "pay off".

These remarks are certainly not intended to cause the participants in this international fertility control program to relax their efforts and be lulled into complacency. The successful outcome anticipated above is not one that will come automatically, but only as a result of a continued all-out "crash program" to make the widest and most intensive use of the medical, sociological and psychological knowledge now available, and of the practical experience that has recently emerged from experimental family planning programs. It also anticipates a continued flow of new research findings and enriched practical experience that is promptly fed back into programs of fertility reduction.

This view is at variance with the established view of many population experts. For more than a century, demographers have terrorized themselves, each other, and the public at large with the essential hopelessness and inevitability of the "population explosion". Their prophecies have all been dependent upon one premise: "If recent trends continue...." It is an ancient statistical fallacy to perform extrapolations upon this premise when in face the premise is invalid. It is my major point that recent trends have not continued, nor will they be likely to do so. Instead, there have been some new and recent developments that make it plausible to expect a much more rapid pace in fertility control. These developments are so new and so novel that population trends

before 1960 are largely irrelevant in predicting what will happen in the future.

In times of social revolution, it often is fruitless to forecast the future on the basis of past experience. Instead, it is better to abandon time series analysis and study the phenomenon of change itself, seeking to understand it and to learn in which direction and how rapidly it is moving. If enough can be learned about the social movement that is bringing about the change, there is a hope that its eventual outcome can be roughly predicted. This procedure is followed here. The result is subjective and crude, but I believe it to be nearer the future course of demographic history than the official population projections now on record.

II

Limitations of space permit only a listing of major social developments which, in my view, justify the relatively optimistic prospect I have set forth.

1. **GRASS ROOTS APPROVAL.** All over the world, wherever surveys of the attitudes of the public with respect to fertility have been taken, it has uniformly been found that a majority of couples with three living children wish to have no more. Of these, a very large proportion approve of family planning in principle and declare they would like to have more information about it. They also approve of nationwide health service that includes family planning. In other words, active objections among the masses on cultural, moral, or religious grounds are minor rather than major obstacles. This is true both in Asia and Latin America, and seems to be developing rapidly in Africa. Thus, at the "grass roots" level, the attitudinal and cultural conditions are highly favorable. Previously, it had been feared that traditionalism and religious attitudes would prove to be almost insuperable blocks to rapid fertility control. But the more sociologists study the situation, the more they accept as correct the generalization that, in most places where there is a population problem, the attitude toward family planning among the mass of the people is strongly positive.

2. **AROUSED POLITICAL LEADERSHIP.** Whereas fertility control was regarded as a subversive, immoral, and sinful program during the 150 years of fertility decline in Europe and the United States, in the nations with a population problem today the national political leadership openly accepts family planning as a moral and rational solution. Heads of state in India, Pakistan, Korea, China, Egypt, Chile, Turkey, and Colombia, for example, have made fertility control an integral part of the national plan for economic development. In this, they have followed the lead of Japan. The national ministers of health and welfare not only are permitted but are expected to provide family planning services. National health services are adding family planning to their clinic services, financed by public tax funds. The mass media are increasingly carrying official endorsements, public encouragements, and specific information.

3. **ACCELERATED PROFESSIONAL AND RESEARCH ACTIVITY.** Professional groups in the developing countries (as well as in the rest of the world) are rapidly losing whatever antipathy or prejudice against family planning they may have had. Everywhere, the medical profession is rapidly giving it a solid endorsement - even in nations where there have been problems of religious objection. Within religious groups where there formerly was a hard inflexible prohibition against the use of chemical or mechanical contraceptive appliances, there is now a great deal of difference of opinion. Gradually, the laity is reaching the belief that the control of natality is a matter for the individual conscience, or a medical matter to be discussed with a physician - but not with the priest. Physicians and priests alike tend to accept this interpretation without forthright challenge.

Universities, both in the United States and abroad, have undertaken large-scale and sustained research activities in the fields of family planning. Their activities cover the entire range of topics - medical, sociological, and psychological. Most of the nations with a national family planning program are sponsoring research into the problem. This includes not only projects to discover new and improved ways of promoting fertility control, but also the evaluation of present programs. These activities are not amorphous, but within a remarkably short time have been coordinated. The process of integration was greatly facilitated by the holding in Geneva in 1965 of an International Conference on Family Planning Programs.

Much of the credit for the development described above is due to the activities of not-for-profit organizations that have taken population control as a focus of their activities: The Ford Foundation, Rockefeller Foundation, Population Council, and International Planned Parenthood are the leaders. The Swedish Government, the Milbank Memorial Fund, the Planned Parenthood Association of America, and the Pathfinder Fund have also been highly important sponsors of these activities. These organizations have provided unprecedented financial and technical support.

4. THE SLACKENING OF PROGRESS IN DEATH CONTROL. Immediately after World War II, the industrialized nations of the world realized that there was a series of public health and medical programs that could be accomplished quickly and cheaply to bring about a reduction in mortality. These have now been largely carried out - there have been campaigns against malaria, smallpox, cholera, yellow fever, and other diseases that can be brought under control with an injection, a semi-annual house spraying, etc. The results have been dramatic, and death rates have tumbled. However, further progress in death control will be slower, because the remaining problems are those for which a solution is more difficult or is as yet unknown. For example, the death rate in Latin America stands at about 14 per thousand now. Modern medicine could bring it, at best, only to about 8 per thousand - a fall of 6 points. But a very much greater investment must be made, and over a considerably longer span of time, to achieve these 6 points than was required to obtain the preceding six points. In Asia the death rate still stands at about 20, even after the advent of the "miracle drugs" and the mass-inoculation and mass-treatment programs. It may be expected to drift lower, but at a slower pace than before.

This slackening of death control has a most important implication - a decline in the birth rate would be more directly reflected in a decline in the rate of population growth. During the past two decades, even if birth rates were declining, death rates were declining still faster, so that the population growth rate increased. That trend now appears to be reaching the end of a cycle: the cycle appears to be on the verge of reversing itself.

5. A VARIETY OF SOCIOLOGICAL AND PSYCHOLOGICAL PHENOMENA, PREVIOUSLY UNKNOWN OR UNDERAPPRECIATED, ARE PROMOTING THE RAPID ADOPTION OF FAMILY PLANNING BY THE MASS OF THE PEOPLE. Here we can only list them, without explanation:

- a. Privation is itself a powerful motivating force for fertility control.
- b. Private communication about family planning is far greater than had been thought, and can easily be stimulated to attain flood proportions.
- c. "Opinion leaders" - indigenous men and women who are knowledgeable about birth control and freely undertake to influence others to adopt it - can be mass-produced cheaply and very rapidly by means of mass media and other action programs. Thus, in this area just as in economic development, there is a

"multiplier effect" which, if capitalized upon, can greatly hasten "takeoff" into rapidly declining fertility.

- d. It is becoming evident that fathers are very nearly equally as interested and responsible in controlling fertility as are wives. Programs aimed at couples instead of at females, are highly effective.
- e. We are discovering that illiterate rural populations will make use of the traditional methods of family planning - condom, suppositories, etc. - very nearly as readily as urban populations, after a brief period of information and trial. They will also adopt the newer methods as - or even more - readily.

6. IMPROVED TECHNOLOGY IN CONTRACEPTION PROMOTES MASSIVE ADOPTION BY UNEDUCATED PEOPLE AT A RAPID PACE. Oral contraceptives and the intra-uterine devices have both proved to be highly acceptable after only short periods of instruction and familiarity. Even illiterate rural villagers make sustained use of these methods where they have been given unprejudiced trial. These developments are only half-a-decade old, but they already have had a profound impact upon fertility control programs and plans. As yet there is still a great deal of prejudice against the oral compounds in Asia, so that the advantages of a two-method assault have not been fully realized there. In Latin American experiments, where the "pills" and intra-uterine devices are used side-by-side as alternative methods, the results are highly impressive.

We are repeatedly being told by the physiologists, however, that our so-called "modern" methods of contraception are crude and barbarous - each with unpleasant side-effects and unsuitable for as much as one quarter of the population. They insist that much superior methods are on the horizon - that soon there will be dramatic improvements, that costs will be cheaper, and that the need for "sustained motivation" to practice contraception will be greatly reduced. Millions of dollars are being poured into experimental research on this front each year. This activity is taking place both in the public and the private sector. The giants of the drug industry know that huge markets can be gained by improving upon present contraceptive technology - and that huge markets will be lost if a competitor discovers and markets a superior product. As a result, all of the leading motives that bring about frenzied activity for progress among scientists have been harnessed and are at work in behalf of improving contraceptive technology - prestige, economic gain, anxiety, compassion.

III

In order to illustrate the above points, let us take as an example the recent experience of Korea. In 1962, the Republic of Korea formally adopted family planning as one of its national policies. In 1965, a National Survey of Family Planning was conducted. Following are some points from that survey.

1. Eighty-nine percent of the wives and 79 percent of the husbands approved of family planning.
2. The rate of approval was only slightly lower in the rural than in the urban areas (88 percent for rural women and 77 percent for rural men).
3. Of the minority who disapproved, only 8 percent mentioned religion or morals. Traditional resistance was as low in rural as in urban areas.
4. Inability to read was no barrier; 81 percent of those unable to read nevertheless approved of family planning.

5. On the verbal level, the population declared itself willing to practice family planning if given services. Seventy-seven percent of the urban women and 71 percent of the rural women made such a declaration. Among husbands, 71 percent of the urban and 65 percent of the rural made such a declaration.
6. Unwillingness to practice family planning was concentrated primarily among young couples who had not yet had the number of children they desired and older couples (past 40 years of age) who were approaching the end of their childbearing. Couples in the years of prime importance for birth control, 25-40, were most positive in their attitudes. Moreover, the greater the number of living children, the greater the willingness to practice.
7. As a result of the national information program 85 percent of the urban and 83 percent of the rural population had heard of family planning. Moreover, 67 percent of the urban and 64 percent of the rural population had knowledge of at least one contraceptive method. Even among the illiterate, 51 percent knew of one method or more. Knowledge of the more reliable methods - oral pill, IUCD, condom - was only very slightly less widespread in rural than in urban areas.
8. At the time of the interview, 21 percent of the urban and 14 percent of the rural couples were practicing family planning. Even among the illiterate population, 10 percent were currently practicing family planning. Although small, these percentages very obviously have sprung from a condition of near-zero within a span of three years. If only 2 percent are added each year, within 35 years population growth would be near zero.
9. The methods used by rural families were equal to or superior to those of the urban population in terms of reliability:

Method	Percent of those using a method	
	Rural	Urban
Condom	51.1	61.1
I.U.C.D.	18.4	27.0
Oral Pill	8.5	3.5
Foam tablet	34.5	42.2

Note: Figures add to more than 100 because some couples employed more than one contraceptive.

10. In April of 1965 there were 2207 field workers in the national family planning service, stationed in the health centers or in local offices. This is only the first wave of a rapid build-up to a point where there will be one field worker for each 10,000 population. The medical and social science departments of Seoul National University are actively engaged in research, evaluation, and participation in the national program. A private organization, Planned Parenthood Federation of Korea, has a branch in each province and is providing service and information through its office. Yonsel Medical College is conducting special experiments in rural areas, with assistance from the Population Council.
11. The progress of the national program in giving family planning services is most impressive. The progress that results when a well-designed family planning program is carried out in a population of low education is illustrated by the Sungdong Gu Action-Research Project on Family Planning, conducted by Seoul National University School of Public Health under the sponsorship of the Population Council. This program started in July, 1964. It included the use of mass media (T.V., radio, newspaper, posters, pamphlets, leaflets),

group meetings, and home visiting. During the first 15 months of the program, of a total of 44,900 eligible (married women in the ages 20-44), 9,809 visited the family planning station for family planning information. About 85 percent of these visitors (19 percent of all the eligible women) accepted a method of family planning. Acceptance was divided roughly equally between condoms and other traditional methods and the IUCD's. Within the period, a total of 5,722 insertions (13 percent of the eligible women) were made. Even when allowance is made for the fact that the first year's experience would "skim off" the accumulated group of already-motivated people, the fact that one-fifth of the fertile population could be induced to adopt family planning within such short time is most impressive. It suggests the potential progress that can be made when a well-balanced program of information and service is provided, making use both of the mass media and personal contact.

The above brief notes on the progress of fertility control in Korea are not isolated instances. A recent report from the Pakistan Family Planning Programme suggests that more than one million families in that nation of 100 million (about 5 percent of the eligible population) now are currently contracepted through this program alone. In India, more than a million insertions of IUCD's are being made annually - in addition, the use of other methods of contraception is rising. In Colombia in Latin America, the oral pills and the IUCD both are being accepted at phenomenal rates; it is estimated that more than 120,000 couples in this nation of 18 million persons are using the oral pills alone; this is roughly 3 percent of the eligible population. In addition, large quantities of other methods are known to be used. In Santiago, Chile, the IUCD is so well known and widely used that it is a part of the medical service throughout the metropolitan area.

To summarize: wherever one looks in the underdeveloped segments of the world, one finds evidence of firmly established and flourishing family planning activity. By whatever crude estimates it is possible to make, it is quite clear that a sufficiently large share of the population already is making use of modern contraceptives to have a depressing effect upon the birth rate. Even conservative evaluation of the prospects suggests that instead of a "population explosion" the world is on the threshold of a "contraception adoption explosion". Because of the lack of adequate vital statistics, the effects of this new "explosion" will not be readily measurable for a few years, but they will start to manifest themselves in the censuses of 1970 and will be most unmistakable in 1980.

IV

Given the situation that has just been described, what can be said concerning the future population of the world? If we insist on extrapolating past trends, we are making the unrealistic assertion that conditions have remained and will continue to remain unchanged. If we predict a slow change of the type that was typical of Europe and Northern America before 1960, we are implicitly asserting that the current programs are having zero effect: this assertion is contrary to fact. The course taken here has been to try to comprehend the nature of the change that is taking place, and to predict its probably course and speed, so that its impact may be guessed. As crude and subjective as this procedure is, it appears to offer more valid predictions than conventional population projections.

Looking at the developments listed above, realizing that they are only 5 years old or less, knowing that accomplishments in this area are cumulative and grow by exponential curves, and appreciating that new discoveries and improvements will accrue promptly along all fronts - medical, social, and psychological - both from basic research and from accumulating experience and evaluation - the following generalizations appear to be justified:

The trend of the worldwide movement toward fertility control has already reached a state where declines in death rates are being surpassed by declines in birthrates. Because progress in death control is slackening and progress in birth control is accelerating, the world has already entered a situation where the pace of population growth has begun to slacken. The exact time at which this "switch-over" took place cannot be known exactly, but we estimate it to have occurred about 1965. From 1965 onward, therefore, the rate of world population growth may be expected to decline with each passing year. The rate of growth will slacken at such a pace that it will be zero or near zero at about the year 2000, so that population growth will not be regarded as a major social problem except in isolated and small "retarded" areas.

In evaluating these conclusions, it must be kept in mind that the topic is a deadly serious one, and the penalties for misjudgment may be very great. There is one set of penalties that results from over-optimism. But there is another set of penalties that results from over-pessimism. It is quite possible that nothing has sapped the morale of family planning workers in the developing countries more than the Malthusian pessimism that has been radiated by many demographic reports. It is like assuring soldiers going into battle that they are almost certain to be defeated. If the comments made here should be so fortunate as to fall into the hands of these same family planning workers, it is hoped that those who read them will appreciate just how close they actually are to success. They have it within their grasp to improve dramatically their countries' fortunes. Coupled with the companion programs of industrialization and modernization, the effects could appear almost miraculous as they unfold in the 1970's and 1980's.

per thousand a year and higher—has little to do with the rate of capital accumulation and static population size. First, high birthrates were a natural rate of population increase that is about too fast to maintain per capita output in some countries. Second, high birthrates were a high ratio of dependent children, unable to produce but always consuming.

(1) High crude birth-rates continuing at 40 plus per thousand a year, and crude death-rates continuing to fall, many nations' population at present rates of natural increase will double every 35 to 38 years. Perhaps the employed labour force can double as fast. But natural increase cannot increase by deflation. And many poor countries cannot save and invest enough yearly to double their stock of capital in, say, 30 years. Therefore, unless innovations increase final output to justify input rates rather more rapidly than now seems the case, aggregate output per capita may barely increase. Most of these countries cannot both have natural increases in population of from 2 to 3% annually and increase in per capita income of 3% a year or better. Even in