measurements carried out as a standard diagnostic) are published in the scientific literature. (Incidentally, Metz's article mentions the General Electric Company's participation in laser fusion research but does not explain that GE is one of five major participants in the University of Rochester's Laser Fusion Feasibility Project; other principal sponsors are the EXXON Research and Engineering Company, the Northeast Utilities Service Company, and the New York State Atomic and Space Development Authority.)

The academic community has been a primary source of many new ideas in laser fusion and related research. At Rochester, the laser fusion project is completely unclassified; thus, all information generated through its activities is made public. One laser fusion breeding concept (reenergizing used fuel rods from fission reactors) has been developed by researchers at Rochester. The university has filed several patents relating to this concept, and the patents will be made available to others through licensing.

Compared to efforts in governmental and private industrial laboratories, university-based programs in fusion research appear relatively small. However, in a field that is largely idea-limited, universities have a major contribution to make in developing the scientific understanding necessary to develop this process as a future energy source. The kind of collaboration exemplified by the Rochester project—involving government, industry, and university—is a pioneering one that seems to hold much promise, and we hope it will serve as a model for cooperative research in other areas.

MOSHE J. LUBIN
Laboratory for Laser Energetics, University of Rochester, Rochester, New York 14627

Immigration Policy

Charles B. Keely, in his well-balanced article "Immigration composition and population policy" (16 Aug. 1974, p. 587), correctly laments the poor quality of U.S. immigration and emigration data, especially the latter. But better data are likely to be slow in coming. Based on past experience, one might estimate that it will take two or more years for Congress to authorize such data collection and appropriate necessary funds, another 2 years for transition to the new system, and 6 years to accumulate the experience needed to describe in detail what is happening. Unfortunately, we do not have a decade to wait. The question of the demographic significance of immigration will likely mature in the next few years. As a result, decisions will have to be made with the deficient data now available, as is the case with most political questions.

Beyond this, more accurate data may not help much in deciding the role that demographic considerations should play in setting U.S. immigration policy. What will count is the policy-maker's appreciation of the significance of additional population growth for the United States. Those who do not see additional growth as a problem are not likely to be moved by more accurate statistics. Those concerned about additional growth will find little solace in refinement of the figures. As Keely points out, it is a value judgment.

The projected addition of some 15 million to our population through legal immigration between 1970 and 2000 (*1*) is a responsibility not to be taken lightly. (Illegal immigration, which also needs to be addressed, will add an additional and perhaps even larger number.) As competition for resources grows abroad and our domestic supplies dwindle, we may find ourselves hard pressed to provide for today's numbers, much less those that will be added by natural increase and net immigration. The situation calls for great prudence in making any additions to our population, from whatever source.

The main numeric limitations on immigration were established 50 years ago, when there were 100 million fewer people in the United States and the world setting was quite different. These limits should be reevaluated in the light of today's world. Demographic concerns should take their place alongside the more traditional ones in the setting of our immigration policy. Unfortunately, immigration law is complex and controversial. The public is not well informed on the topic. These conditions make a reasoned public debate of this sensitive and complex topic difficult, but it must be attempted. Keely's article is a useful step in this direction.

Finally, it is possible to envision a world in which international migration could be relatively free of restrictions. A basic requisite would be a social

and environmental situation in which there were few incentives for people to move. This in turn would require relatively stable populations and equitable distribution of opportunity and wealth, hardly a description of today's world. Without these conditions, it appears that open immigration policies are about to be added to the growing list of casualties of continued population growth and resource depletion.

JOHN H. TANTON
Immigration Study Committee,
Zero Population Growth,
Washington, D.C. 20036

References

1. *Population and the American Future: The Report of the Commission on Population Growth and the American Future* (New American Library, New York, 1972), p. 201.

Tanton correctly points out that decisions often have to be made with deficient data. Current immigration data are not equal to the task of providing needed insights into the effects of proposed changes in immigration policy. I agree that population considerations should be included in immigration policy, but political, economic, and social considerations also have a place in such deliberations. Tanton's discussion and conclusion indicate the paramount importance he gives to population. Restrictionism has previously been viewed as an answer to problems in the United States. Our experience should warn us to tread carefully. Ansley Coale's evaluation (*1*) of immigration's contribution to population growth should give us pause about considering radical cutbacks of immigration as a way of checking the effects of population growth.

Concern for the quality of life should also cause us to be vigilant about equity in our laws and about repressive administration and enforcement, which affect not only aliens but native-born and naturalized citizens. Our shared concern about population growth should not blind us to the complex effects of immigration policy and administration. We should seriously ponder whether mere survival is enough.

CHARLES B. KEELY
Department of Sociology,
Western Michigan University,
Kalamazoo 49001

References

1. A. J. Coale, in *Commission on Population Growth and the American Future: Research Reports*, vol. 1, *Demographic and Social Aspects of Population Growth*, C. F. Westoff and R. Parke, Jr., Eds. (Government Printing Office, Washington, D.C., 1972), pp. 589–603.

Obvious Question

I was much interested in Irving H. Page's editorial "A sense of the history of discovery" (27 Dec. 1974, p. 1161), especially the description of the ludicrous circumstances under which Fleming discovered penicillin. I think I can add a further ludicrous note to the discovery of penicillin.

When I was an undergraduate in medical school and taking a bacteriology course (in 1914), we learned how to grow bacteria on agar plates. One day my plate had a number of black spots on it surrounded by clear halos. I asked the instructor what those clear halos were containing a black spot in the center; I don't recall his exact words, but the tenor of his response was, "Those are molds: you were careless in your technique and you got your plate contaminated by molds. You must be more careful."

I am sure that bit of knowledge was not his alone. The other instructors and the professor of bacteriology must have known also of the black spots surrounded by clear zones. There must have been hundreds of bacteriologists around the world at that time who had seen this same thing. Incredibly, it seems that the perfectly obvious question, "If something diffuses out from a colony of molds which will prevent bacterial growth in culture, might this also prevent infection in man?" seems not to have occurred to any of them. Why didn't that so very obvious question occur to me? Instead, I went back to my place thoroughly chastened, having been chided before the whole class for carelessness in technique. Before the day was over, all my classmates knew that molds destroyed bacterial growth. They were all reasonably intelligent; why didn't the question occur to one of them?

If a reasonably intelligent and curious high school student had wandered in to visit the laboratory, he, being thoroughly disinterested, might very well have asked, after the situation was explained to him, "Is that what you use in sick people to kill bacteria?"

It has always seemed to me that this was a prime example of how extremely obtuse even intelligent people may be. After all, the only reason we were studying bacteriology was to learn how to control infectious diseases!

A. C. HILDING
Research Laboratory,
St. Luke's Hospital,
Duluth, Minnesota 55805