wish to make is that factors completely outside the power of the Center for Population Research make conditions for the *application* of basic research findings in the fertility control field increasingly more difficult, and nothing in Corfman's letter contradicts this opinion.

I disagree with Corfman that only steroid contraceptives "require special scrutiny simply because of their known effects on blood clotting, a multitude of metabolic functions, and animal carcinogenesis, among others." I stated that irrespective of their chemical structure, all chemical birth control agents will be subjected to the type of detailed scrutiny outlined in my article; and it is preposterous to believe that the FDA or even any responsible investigator will pay less attention to carcinogenesis, blood clotting, or many other effects which may be caused by the continuous administration of any chemical agent for many years to a normal human population. Probably over 99 percent of all the chemical carcinogenic agents are not steroids, and I am convinced that our present attitude with respect to drug evaluation and eventual public use of any substance used in preventive medicine for long periods of time in normal populations will suffer from the difficulties which I have outlined.

Corfman states that "government and nonprofit agencies are more interested in contraceptive methods than in products since it is not the ultimate purpose of these agencies to manufacture drugs to be sold for profit." Within the context of my article, which specifically was limited to *chemical* birth control agents, no contraceptive method will have any effect in reducing population growth unless it is converted into a product which can be distributed and which can be used by people. In all technologically developed countries, with the exception of Eastern Europe, drugs for public use are developed by pharmaceutical companies and not by government or nonprofit agencies. Unless fundamental changes in drug development, manufacture, and distribution are effected, what is needed is intimate collaboration between industrial, government, and nonprofit agencies; and, if the urgency of the world population problem will stimulate such collaboration, then perhaps the prognosis is slightly less dismal than currently viewed by me.

Nestor (Letters, 26 Dec.) takes issue with my recommendation that an independent scientific body should be available to which rulings by the Food and Drug Administration on scientific matters dealing with clinical testing (which is a completely different matter from rulings on permission to market a compound) can be appealed. Nestor favors the present process which involves appeal through the courts. To me this seems completely unrealistic since very few research scientists or research organizations are prepared to go through court procedures in order to settle questions of scientific protocol and research procedure. My views are supported by the observation that virtually no court appeals have been made to such FDA decisions on clinical experimentation and that for all practical purposes such decisions are unappealable. I do, of course, agree that the courts are the right place to deal with matters of drugs that have passed the clinical evaluation phase and are introduced into open commerce.

CARL DJERASSI
Department of Chemistry,
Stanford University,
Stanford, California 94305

Alaska: A Climate for Cabbages

Frederick Lotspeich's article "Water pollution in Alaska: Present and future" (5 Dec., p. 1239) is in general an excellent overview of Alaska's situation, but he is guilty of repeating an old fallacy which people accept without thinking. He says, "Agriculture is unlikely ever to become important because of unfavorable climates and of Alaska's inability to compete with other areas of agricultural production." No evidence is presented for this statement, and it is nothing more than the perpetuation of the old belief that Alaska is a land of everlasting ice and snow.

The University of Alaska Agricultural Experiment Station has just completed a study of the potential for agricultural production within the state. We estimate the production potential of our class II and III land (classified according to the Soil Conservation Service) to be worth $386 million per year based on 1967 prices. We do not have the population to absorb that production, but we estimate the local market in 1985 will demand in excess of $50 million worth of agricultural products that we can and do produce here. Our population estimates are quite within the range reported by Lotspeich

and are probably conservative, since they were made prior to the North Slope oil discovery. Naturally, these figures may seem small by comparison with other states, but "important" is a relative term and a $50-million-per-year harvest of a renewable resource would be important to Alaska.

To say that our climates are unfavorable to agriculture is to forget man's history. As soon as man moved away from the food-gathering economy of the tropics into the temperate zone, he moved into an area unfavorable for agriculture because of winter seasons. He had to learn what crops would grow and how to perpetuate them from one growing season to the next. For most of our field crops in Alaska, we find that Scandinavian varieties do quite well. Rather than having unfavorable climate for our vegetables, the reverse is true. Fifty-pound cabbages are quite common in Alaska, and although useless from a commercial standpoint, they indicate the efficiency of production in this climate of long photoperiod and cool temperatures. The quality of vegetables grown under these climatic conditions far exceeds that of vegetables grown farther south.

Contrary to Lotspeich's statement, we can and do compete. The cost of potato production is fairly comparable to that in California. We do not have to spray for insects or diseases. Late blight, for instance, is unknown except near Ketchikan in the very southeastern portion of the state. Growers compete in the local market on the basis of Seattle price plus freight and net more per acre than almost any other potato growing area. In season, local lettuce completely replaces lettuce which has been shipped in. We can store and sell local lettuce over a 12-week period following the last harvest whereas stateside lettuce can be stored about 4 weeks. We have exported foundation potato seed to the other states and are presently exporting Foundation Nugget Kentucky bluegrass seed. There is no question but that we can compete.

Our problems of agricultural development are not primarily due to climate, or to lack of ability to compete, but to a host of other things, one of which is the readiness of people to accept the belief that agriculture in Alaska is impossible because it is not identical to some other area.

CHARLES E. LOGSDON
Agricultural Experiment Station,
University of Alaska,
Box AE, Palmer 99645

Crafty, Ambitious Authors

For many years *Science* has served as a forum for debate about problems in scientific communication. There is little question that we are approaching the point of being overwhelmed by scientific information. Part of our "information explosion," however, is only apparent. More and more frequently I am finding the *same* data appearing in more than one journal article. For example, I have before me three articles by the same author submitted to three different journals within an 11-month period. Each contains data from the same experiment. Article 1 contains all of the data; article 2 contains 50 percent of the data from article 1, and no more; article 3 contains 25 percent of the data included in article 1 and again, no additional data. Interestingly, the article which contained all of the data was published in *Science* and not in a speciality journal. The speciality journal article contained only 25 percent of the data. Curiously, these three articles were not even cross-referenced, which added to the appearance that each represented a unique scientific contribution.

Such multiple publication of data in primary source journals represents a "publication explosion" rather than an "information explosion." It contributes nothing to scientific progress and should cease. Many journals specifically state that the material submitted has not been and will not be submitted for publication elsewhere. If this policy were accepted and enforced by all journals, multiple publication would disappear—to our mutual benefit.

RICHARD E. WHALEN
Department of Psychobiology,
University of California,
Irvine 92664

Under the "Liberal" Umbrella

The incredible but fascinating account of the recent AAAS meeting in Boston (2 Jan., p. 36) reaffirms the fact that much of the disaffection of the "New Left" is directed against science and technology. Scientists, having accepted their guilt, are now asking themselves where they have erred, and are trying to atone for their sins. But are scientists really guilty of monstrous crimes? What is the motive of those who proclaim that science, and logical thought in general, are evil and should