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**

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**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
**you buy a research spectrofluorometer to get spectra, correct?**

**WHY NOT GET CORRECT SPECTRA?**

The fluorescence excitation spectrum of a compound should correspond point-by-point with the absorbance spectrum. Consider the relative heights of the absorbance peaks of quinine sulfate at 250 and 350 nm. Calculation (Science, Vol 146, No. 3641, pp 183-189, Oct 9, 1964) from absorbance data obtained with a Cary Model 14 indicates that, with an energy-corrected spectrofluorometer, the peak-height ratio should be very close to 4. The fluorescence excitation curve at right, made with the TURNER Model 210, shows this to be true.

With a conventional spectrofluorometer, the ratio will be about 1 — more or less — depending on the individual instrument. The peak at 208 nm will appear as a tiny shoulder (if it appears at all), and indeed it may appear elsewhere than 208. The tendency of an uncorrected spectrofluorometer to shift the location of a peak is particularly common in compounds with broad peaks. An indication of this may be found in any paper on the fluorometric determination of serotonin using 3N HCl. It will call for peak activation at 295 nm, whereas the Model 210 shows the peak to be at 280 nm, corresponding to the known absorbance peak.

Correction of activation spectra is only half of the story, as similar errors appear in emission spectra. A conventional spectrofluorometer will show one emission peak for coproporphyrin I or at the most, one peak and a shoulder. The Model 210 shows all three peaks (596, 622, and 653 nm) in correct ratio. In addition, the emission spectrum is presented in the form required for the determination of quantum yields.

Write for further details, including a bibliography of the published theoretical studies performed with this precision instrument.

*Comparable absorbance data were obtained also with the TURNER Model 210, which, in addition to being a Spectrofluorometer, is a precision, double-beam, ratio-recording Spectrophotometer.*
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 state-side 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
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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 specialty journal. The specialty 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.

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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
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be abandoned in favor of emotion? Such a question might violate the tacitly accepted rules in intellectual discussions which assume that anyone espousing a point of view labeled "liberal" does so only from a pure and noble concern for the welfare of mankind.

I suggest that in fact many of the fears currently being voiced about the evils of science represent an ignoble reaction stemming from feelings of personal inadequacy. If a person decides that he is an intellectual and should therefore be running the world by virtue of his obvious superiority, he is faced with the fact that many of the forces shaping our civilization require some understanding of the sciences. This knowledge is acquired only after some years of effort. It is easier to seek refuge in activism. Maoism is popular with a segment of the college population not because of a burning concern for social justice but because it is a doctrine which implicitly denies the need for unpleasant mental exertion. Most scientists see themselves as liberals, but unfortunately not all liberals are scientists.

The most strident critics of science will not be mollified by pledges not to participate in "war-related" research or promises to change the emphasis of certain laboratories. They object to such undertakings as the Apollo program not because they are expensive but because they directly threaten their self-esteem. . . . How is freedom of speech bolstered by permitting someone to seize a microphone and shout obscenities for 5 minutes? The opinions of the young are formed by the old, or at any rate by the older, largely through the mass media. To counteract the bad impression many people are forming of science and scientists the first step is to stop agreeing blindly with the critics. The scientific community is at fault for allowing the situation to deteriorate as far as it has. . . .

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Ethical Standards:
In Search of a Protector

Recently, I have become aware of a dilemma for researchers in hospitals and private research institutes: there is apparently no channel through which such individuals may carry appeals or complaints resulting from violations of ethical standards by their employer institutions. This has particularly serious consequences for those who are summarily dismissed without valid grounds for dismissal. In addition, the threat of such action can be strongly repressive and preclude maximal individual thought and creative effort. By contrast, the members of the academic community receive powerful and effective support in this regard from the American Association of University Professors.

I believe that the same high standards of ethical conduct which are virtually taken for granted in the academic world should also be established and practiced by institutions outside of that community. I urge readers of Science who support this view to write to the Executive Officer of the American Association for the Advancement of Science to request that the AAAS determine the possibility of its acting (as a counterpart to the AAUP) in behalf of individuals whose problem may be beyond AAUP jurisdiction.

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New Sites for Cities and Airports

On a recent flight from Newark, New Jersey, to Washington, D.C., we took off in the fog drifting in from Newark Bay, flew inland a bit and enjoyed clear air until we approached Washington, where again the mingling of cold land air and warm moist sea air produced undesirable airport conditions. Good seaports make poor airports. Most of our overpopulated cities developed because they had good seaports. But today's transportation is by air and we need airport-located cities.

Joachim Wohlwill's letter (23 Jan.) suggested population redistribution and referred to President Nixon's suggestion that new cities be built in places removed from present centers of population. Let the President appoint a city site-planning commission to encourage the growth of towns ideally situated, not only for a good supply of clean air and water, but also for good airports.

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Letter to Argentina

The seizure of Argentine universities and the subsequent displacement of scientists was reported earlier in *Science* (16 Sept. 1966, p. 1362), and noted again in a letter by Philip Siekevitz (2 Dec. 1966).

In view of the difficulties encountered by certain individual scientists in Argentina, which have recently come to our attention, a number of faculty members at Harvard and M.I.T. have sent the following letter to the President of Argentina:

The undersigned, who are academic physicians and scientists in the Boston area, have heard with great concern of the internment, without trial, of many Argentinian scientists, physicians, and educators.

As is no doubt very familiar to you, the last few years have seen a very significant migration from Latin America of many of its most able scientists and medical men. In most instances, these men have left their home with the natural reluctance that anyone would show at leaving his native country. Their departure has enriched the United States as well as many other countries. The gain, however, to the countries which have received these scientists is far outweighed by the serious loss to South American science at a critical period in its development. It is precisely such acts as the internment without trial of many academic figures, which have stimulated the departure of scientists from Latin America, and has made many who are abroad prefer not to return.

We would urge you to consider the possible serious long range effects and the immediate obvious outcome of such actions. We would urge that the charges against any individuals in this position be made public, and that they be given their full rights to a free and fair trial, or that the scholars should be released to continue their work freely. We also urge that you permit the free right of contact with them of their family and friends.

We urge this to you not only out of sympathy for these individuals as people, and out of respect for their accomplishments as scholars, but also out of concern that the great scientific and medical heritage of Argentina, which has contributed so much to the world should not be destroyed but should continue to flower and to play its rightful role in the advancement of Argentina and of mankind at large.


NORMAN GESCHWIND

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