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chlor epoxide in their tissues; placental transfer studies using mirex would be of significant value. It is important to know if this chemical is incorporated into plant tissues or whether, by prolonged vaporization, mirex is released into the atmosphere (3).

. . . George Irving, responding to Ferguson's criticism of the Agricultural Research Service's fire ant eradication program (Letters, 14 Aug.), admitted that this insect predator is more significant as a "people pest." This statement can be applied to beneficial hymenopterans, spiders, or venomous reptiles. In these cases, however, action is restricted with the purpose of limiting the population to a reasonable level.

Ferguson objected with good reasons to the broadcast application of mirex for fire ant control. There are alternative procedures to combat Solenopsis which will eliminate the queen ant and reproductive capacity of the colony (2): place the mirex bait around the nest sites (close proximity of the fire ant may discourage consumption by nontarget animals); or burn the mounds during the seeding or harvesting seasons or in the winter when the fields lie barren and the colonies are inactivated by cold weather (avoid soil contamination due to leeching of mirex from the bait). These methods could be executed during low night temperatures and would present a minimal danger to farm workers and to the quality of the rural environment. The project would be under local or district control, the reaction to infestation would be precise and, most likely, less expensive than the \$200 million now allocated for control by the ARS. JOHN W. PARKER

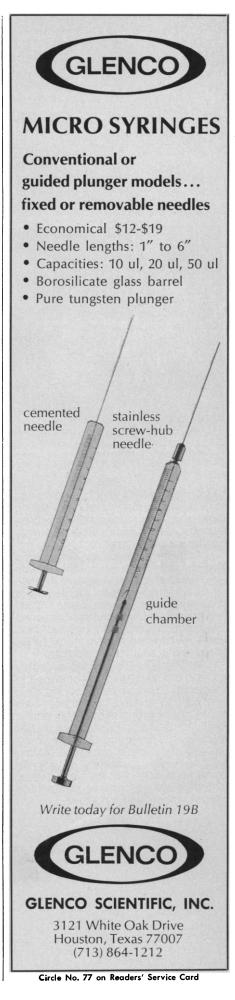
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References

- 1. R. Carson, Silent Spring (Houghton Mifflin,
- R. Carson, Silent Spring (Houghton Mittlin, Boston, 1962). D. Ferguson, Environ. Action 2, 11 (1970). Biological Effects of Pesticides in Mammalian Systems, H. Kraybill, Ed. (New York Academy of Sciences, New York, 1969), vol. 160 of Ann. N.Y. Acad. Sci. 1 (1969).

Cancer Research: Once-Over-Lightly

I believe Robert J. Bazell's commentary on "Cancer research" (16 Oct., p. 304) was based on several rather brief and superficial discussions with some of the people mentioned in his article, rather than on any real comprehension of the very exciting new discoveries



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which have provided the impetus for the new research programs now proposed in the cancer virus field. The \$5 million purported to be administered by me impressed Bazell, but as former chief of the Laboratory of Infectious Diseases of the National Institute of Allergy and Infectious Diseases for 13 years, I was responsible for influencing expenditures many times greater than this amount, expenditures that were regarded by many as well worth the effort; at least no one has questioned the value received.

Many new discoveries concerning the natural behavior of RNA and DNA tumor viruses in natural species and ecologies as well as in laboratory systems are entirely responsible for the new excitement that has been generated among virologists, cancerologists, immunologists, and molecular biologists in all parts of the world. Thus the recent breakthroughs on the cancer virus front are mainly responsible for the new research proposals and the additional appropriations for cancer research...

It will come as no surprise to the numerous virus and cancer investigators serving as expert reviewers for the National Cancer Institute research contracts (research contracts, like grants, must go through a series of peer reviews) to learn that I am not the director of NCI's virus program but one of several branch chiefs in NCI's Special Virus Cancer Program, which is currently administered by Frank Rauscher and John Moloney. This error compounds some of Bazell's other conclusions concerning NCI's Special Virus Cancer Program (it is no longer the Special Virus Leukemia Program).

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Walter Reed Papers

I am editing the works, papers, and letters of Walter Reed (1851–1902), known for his contributions to the suppression of yellow fever. I would appreciate learning of original documentary material, letters, papers, and other primary source material related to Dr. Reed.

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8 JANUARY 1971

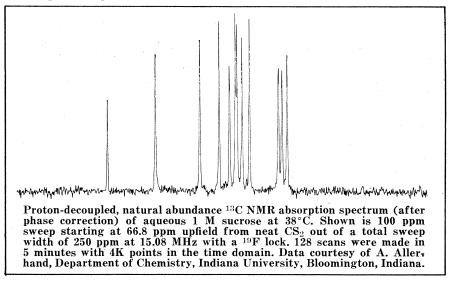
Signal Averaging... Principles and Practices Phase Correction in NMR

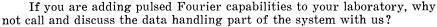
The objective of fast Fourier transform (FFT) techniques in NMR spectroscopy is to produce absorption spectra equal or superior to those obtained through CW methods, and in far less time. Unfortunately, rather than directly providing a true absorption spectrum, the FFT algorithm yields only two intermediate results called the real and imaginary components.

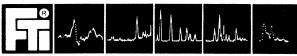
Ideally, the real component should be a good representation of the absorption spectrum. But some distortion due to the phase characteristics of the spectrometer/data handling system is unavoidable. Any time lag in recording data following onset of the exciting pulse, for example, will produce a linear frequency-dependent phase shift. (Often, such a delay must be deliberately introduced to avoid feedthrough of the pulse into the observed free induction decay signal.)

It is possible to eliminate phase distortion by calculating the magnitude spectrum, i.e., the square root of the sum of the squares of the real and imaginary components. The problem here is that spectral lines are broadened by the squaring operations; therefore, the resolution obtainable from a magnitude plot is necessarily inferior to that of a true absorption spectrum.

The Fabri-Tek solution, as used in our FFT data handling system, is to compensate the transformed spectra for frequency-dependent distortions. This is accomplished by rotating the axes of the complex plane until the real and imaginary components represent the true absorption and dispersion spectra.







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