## What price signal averaging?

Here's a quick look at the real expense —in data as well as dollars—of signalaveraging devices, including our averager, the Model 7100 Data Retrieval Computer.



Will you pay for less than excellent resolution? You will in any signal averager that has a minimum dwell-time per data point of more than 39 microseconds. Resolution, after all, is a function of the number of data points that can be placed within a region of interest. Our Model 7100 Data Retrieval Computer (DRC) uses all 400 of its data points for signals occurring within as little as 15.6 milliseconds. The DRC, therefore, gives much better resolution than averagers that use only a fraction of their data points to represent the signal of interest.

Will you pay for less than total versatility? You will in any averager that doesn't have the built-in capability—without add-on options —for interval- and time-histogram analysis, as well as transient-averaging. The DRC will operate in *any* of these three modes, which are selected on a front-panel switch.

Will you pay for less than maximum input sensitivity? You will in an averager that needs a pre-amplifier to accept low-amplitude input signals. The DRC has 20-millivolt input sensitivity. So, most of the time, the DRC requires *no* added pre-amps.

What should you pay for a basic signal averager? That's up to you. But for its price, the DRC offers you more performance, versatility, and convenience than any other comparable signal averager.

## The Model 7100 Data Retrieval Computer. Now available at a new, lower price.

For more information, consult your local Nuclear-Chicago sales engineer or write to us.



349 E. Howard Ave., Des Plaines, Ill. 60018 U.S.A. Donker Curtiusstraat 7, Amsterdam W.

er, IEG program, administered under the direction of E. C. Albritton, has shown itself to be unusually receptive to suggestions for improvement, reform, and change. The American Association of Immunologists recently passed, at a business meeting held in April 1966, by a vote of 56 to 39, a resolution recommending that IEG No. 5 be discontinued. The officers announced this in a letter to Science and evaluated IEG's generally [see Science 153, 649]

> (1966)]. At the time of its submission to Science, a copy of the letter was sent to the IEG. The chairmen of the various IEG's pointed out to Sheldon Dray, the secretary of the association, that the letter contained many inaccuracies and unjustified assumptions. Yet no correction was made of any of these errors of facts, and the letter was published in virtually its original form. As chairmen of four of the IEG's, we feel that an answer to such criticism, point by point, would assign more value to the letter than it deserves. There may, indeed, be valid reasons for the dissatisfaction of some immunologists with the management of IEG No. 5. But to proceed from a specific complaint to an attack on IEG's generally, without detailed knowledge of the relevant facts, is unwarranted.

to enlist the cooperation of scientists

representing all shades of opinion.

What is even more remarkable, the venture has consistently enjoyed the

benevolent and essential cooperation of

many individuals representing the sci-

entific journals and societies. The

D. E. Green

Institute for Enzyme Research, University of Wisconsin, Madison J. GERGELY Retina Foundation, Institute of

Biological and Medical Sciences, Boston, Massachusetts W. DAMESHEK

Department of Hematology, Mount Sinai Hospital, New York S. BARON

National Institute of Allergy and Infectious Diseases, Bethesda, Maryland

The published form of the letter concerning Information Exchange Group No. 5 (12 Aug.) failed to make it clear that this letter was transmitted by Sheldon Dray in his official capacity of secretary-treasurer of the American Association of Immunologists. The letter represents a report of discussions at the annual AAI business meeting. The original version, which was drafted and approved for publication by the Council of the Association of Immunologists, was somewhat shortened by the editors.—ED.

## **Ancient China**

The legend for the cover of the 12 August issue errs (p. 671), as several readers have noted, in stating that "the miners were attached to winches by a safety line." The line is clearly attached to the basket at the miner's feet rather than to his neck.

NATHAN SIVIN

Department of Humanities, Massachusetts Institute of Technology, Cambridge 02139

... The discussion of the meanings of the word "ch'i" in Sivin's book review ("A Chinese classic," p. 730) is interesting. The word also has the meaning of "anger." In the illustration Sung Ying-hsing used an expression for poison gas which definitely is not ambiguous. It is literally translated as "poison smoke gas," or possibly, "poison smoke essence."

L. A. Lovegren Cherry Grove, Oregon 97119

## Cruelty in the Laboratory

Letters published in this section have at times revealed the concern of readers over the type of experiments conducted on laboratory animals. I would like to voice a marked distaste for the experiments on sleep deprivation ("Sleep deprivation and brain acetylcholine," 16 Sept., p. 1416). These strike me as objectionably cruel in view of the length (96 hours) and conditions of the procedure. It is to be hoped that no further experiments along this line will be pursued; the act of slowly depriving animals of an activity essential to life is comparable to inducing death by starvation or thirst. Research scientists, even if committed to objectivity, are still ethically bound to refrain from inflicting unnecessary suffering on other sentient beings, particularly in a situation not crucial to mankind.

F. A. VELAY

500 South 47 Street, Philadelphia, Pennsylvania 19143

SCIENCE, VOL. 154