SCIENCE

18 August 1967

Vol. 157, No. 3790

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

The new L2-65B... designed to keep pace with your demands today and tomorrow

Here is the preparative ultracentrifuge of tomorrow —ready for you today. It is years ahead in the work it can do and will give you the same elegant service for still more years ahead.

The new Model L2-65B has a 65,000 rpm drive and solid-state circuitry throughout. Its new infrared radiometric temperature system is so sensitive and reacts so quickly that sample temperature can be controlled more accurately than ever before. For convenience, the new rotor stabilizer is removable. To safeguard against rotor speed accidentally being set too high, the new independent overspeed control is triggered by the rotor itself. And there are rotors galore for the L2-65B —rotors to serve an unprecedented variety of applications—all the standard Beckman fixed angle and swinging bucket rotors, plus the new high performance rotors and new zonal rotors. For more information, write for Data File L2B-5.

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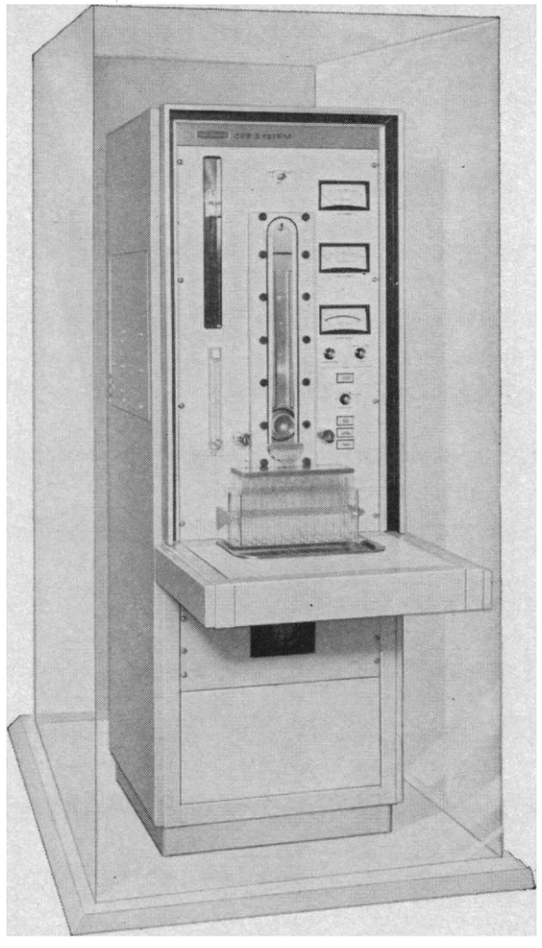

Collector's Item

To separate and collect particle mixtures,
Beckman announces the new CPE™ continuous particle electrophoresis system. It will hasten your next breakthroughs in biological, medical, educational and industrial research.

This new system separates particles that until now were inseparable. It permits preparative collection of isolated fractions. Within three minutes, fractionation can occur on samples as diverse as tissue homogenates, blood, bacteria, soils, plant cells and proteins. Any type of particle that can be studied by microscope electrophoresis can be adapted–virtually all types of inorganic, organic and biological matter up to 100μ in diameter can be separated. This new CPE System allows use of surface mobility to study emigration of sub-cellular particles, and their subsequent collection for submission to an electron microscope, an ultra-centrifuge, or a spectrophotometer. It is unchallenged as a research tool for the kind of sophisticated inquiry that will produce the next leap forward in a dozen areas of investigation. For complete technical information, contact your Beckman sales representative... or write for Data File No. 600B.

The people out front in background and back-up...

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

COVER

Wheat is the world's second most important food crop. About 15 percent of the total supply is produced within the United States, where five varieties are grown. Each of these types has its maximum concentration in a different geographical area; each fills a special commercial need; and each presents unique problems with respect to quality evaluation, resistance to disease and to insect infestation, and hazards of production. See page 774. [U.S. Department of Agriculture, Washington, D.C.]

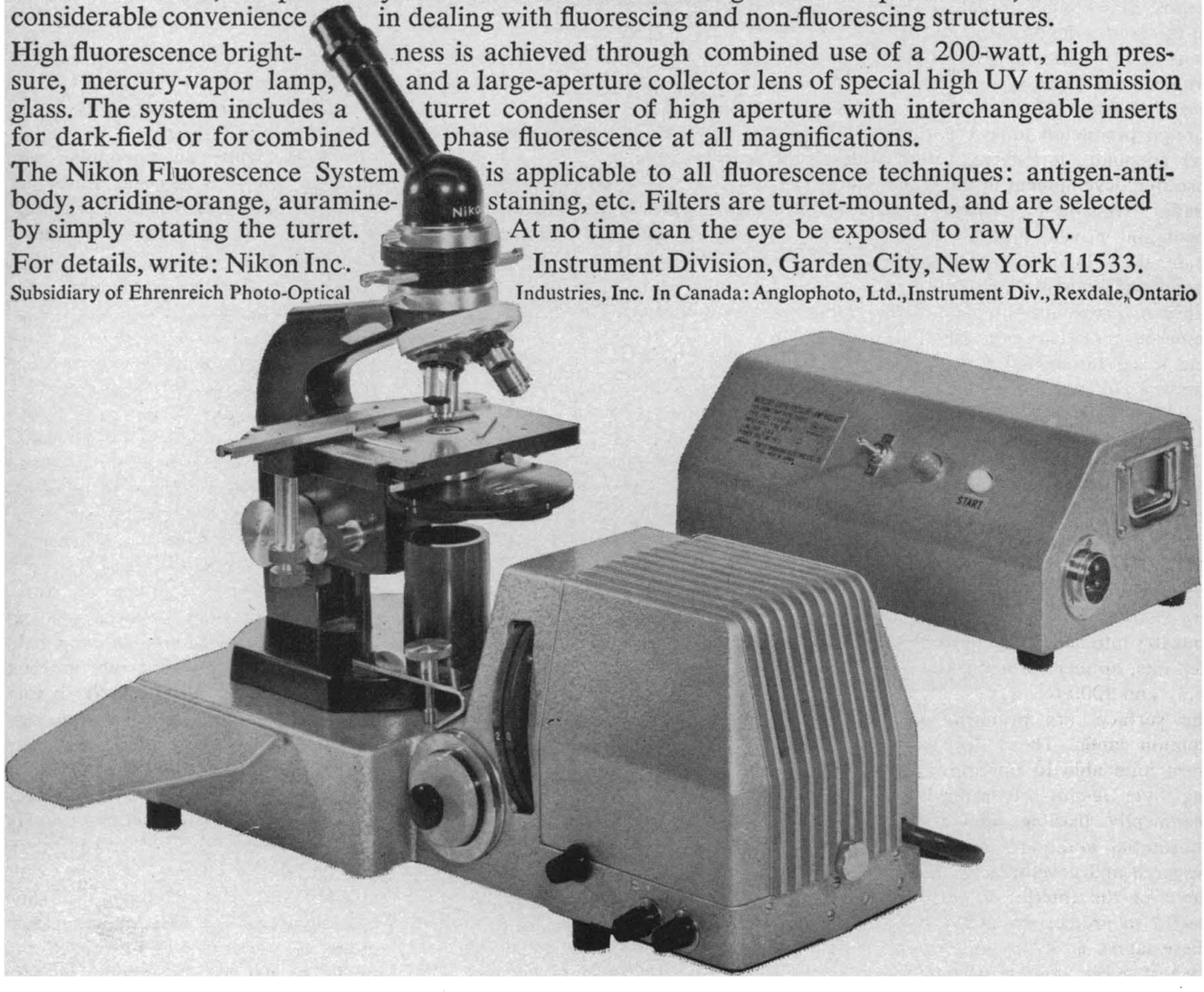
Newly developed fluorescence system for Nikon microscopes offers unusual flexibility in antibody investigation

The new Nikon Fluorescence Attachment consists of a high-emission UV source and a compact stand on which the microscope is mounted and secured. The two become a single, integrated unit. The attachment enables any Nikon series S microscope to be used for dark-field and phase-contrast fluorescence, independently or in combination. The changeover is simple and fast, and offers considerable convenience in dealing with fluorescing and non-fluorescing structures.

High fluorescence brightness is achieved through combined use of a 200-watt, high pressure, mercury-vapor lamp, and a large-aperture collector lens of special high UV transmission glass. The system includes a turret condenser of high aperture with interchangeable inserts for dark-field or for combined phase fluorescence at all magnifications.

The Nikon Fluorescence System is applicable to all fluorescence techniques: antigen-antibody, acridine-orange, auramine-staining, etc. Filters are turret-mounted, and are selected by simply rotating the turret. At no time can the eye be exposed to raw UV.

For details, write: Nikon Inc. Instrument Division, Garden City, New York 11533.
Subsidiary of Ehrenreich Photo-Optical Industries, Inc. In Canada: Anglophoto, Ltd., Instrument Div., Rexdale, Ontario



to help in the decision on the value of bombing North Vietnam; operations research is a subject in which many can participate. We should be able to help in the decision as to the kind of area to be held if we are to hold an area. If we had briefings on the situation, we might be able to make wider suggestions as to techniques in the warfare in the Mekong Delta.

I would like a response from those who would be willing to give a percentage of their time to aid our effort. Please give your name, address, phone number, degree, broad area of competence, and whether willing to help organize or just participate. Please mark the envelope "V.N. Emergency." It is not right that I, at my relatively advanced age, should be the person to organize this but I am happy to be one that might help start it. . . . I will collect the names and I will also report results to *Science* in 4 weeks and I will also inform President Johnson. Since I have very little help to work on this, please keep your answers compact.

ERNEST C. POLLARD
Department of Biophysics, 618 Life Sciences Building, Pennsylvania State University, University Park 16802

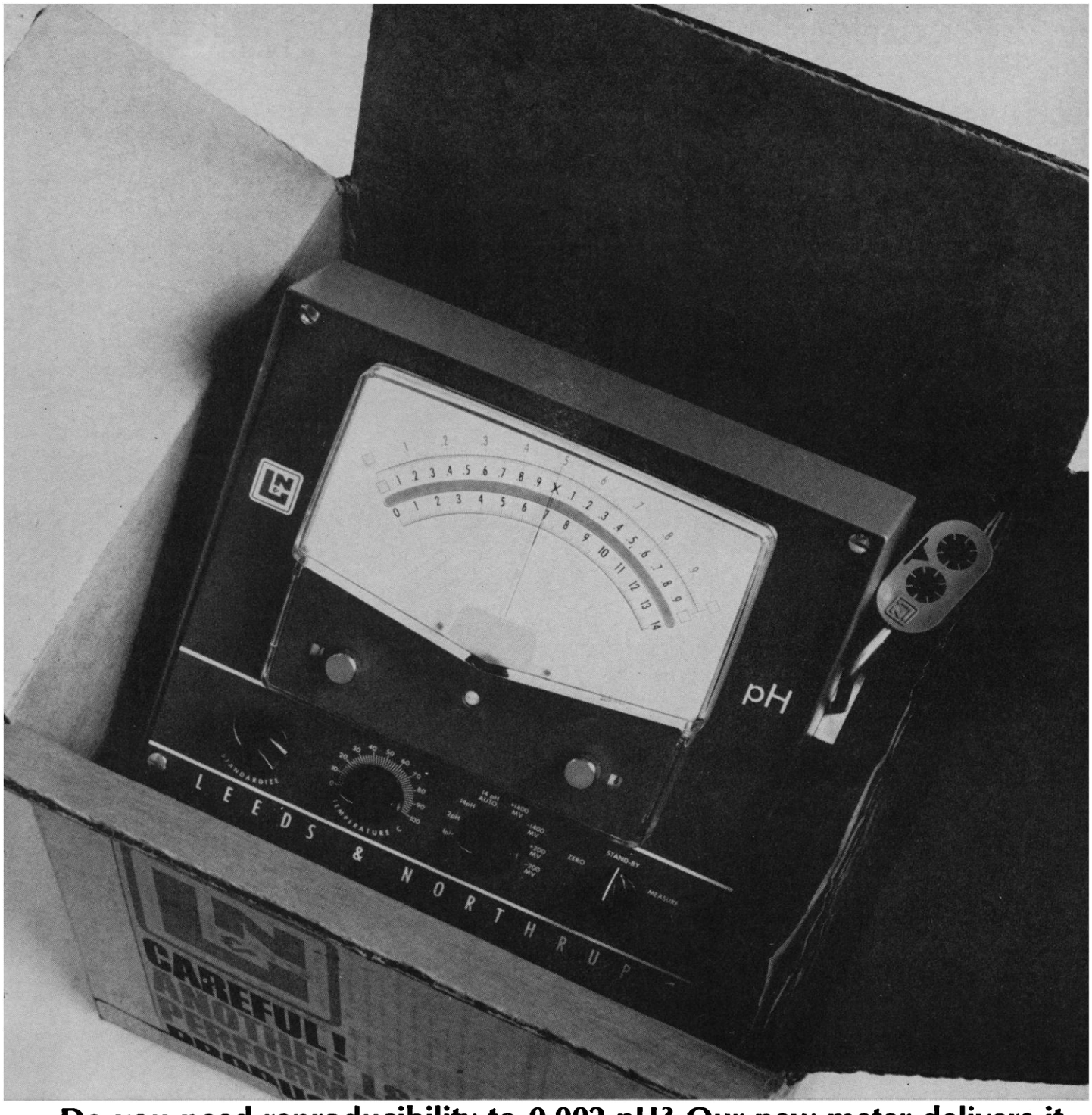
Salmon Semantics

The salmon industry as well as the gourmets may be pleased if the salmonella bugs are renamed "sanella" ("News in Brief," 14 July, p. 172); but not so the people of West Germany who eat "*Sanella, die gute*" (oleomargarine) on their daily bread.

L. MILLER
595 McAfee Street, NW Atlanta, Georgia 30313

. . . The good citizens of Washington State may be starting a trend with their desire to protect the salmon industry by simply adjusting nomenclature. What if a lobby of the persons named Bruce were to ask for a revision of the term brucellosis? What if the fruit industry were to initiate the removal of beriberi (the name only, not the disease)? I see no end to such a trend when I come across words like mongolism, cypridopathy or water moccasin. . . .

MANFRED KROGER
College of Agriculture, Pennsylvania State University, University Park



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It's far and away the most sensitive device in L&N's entire pH family... the 7407-A2 pH meter... designed specifically for laboratory and clinical research and diagnostic use (flexible enough for general-purpose applications too).

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Justifying Academic Research

As a nation we often behave as if we are not sure that we will survive the next 6 months. Urgent short-term or emotion-laden issues commanding the headlines compete successfully for federal funds, while programs essential to the long-term life of the nation are neglected. In such circumstances, academic scientists must not fail to remind the public of the many enduring benefits to be derived from support of research.

The public is aware that practical applications have arisen from past research and are likely to arise from future research, but scientists would do well to continue to furnish examples of the relation of research and beneficial applications. Another need is to help the public explore the cultural aspects of scientific knowledge. Most humans hunger to understand the universe about them, and many are willing to make considerable efforts to satisfy their curiosity. Thus the museums of the Smithsonian Institution in Washington draw large crowds. The observatory at Mount Palomar is besieged with visitors, and the Christmas science lectures sponsored by the American Association for the Advancement of Science are well attended.

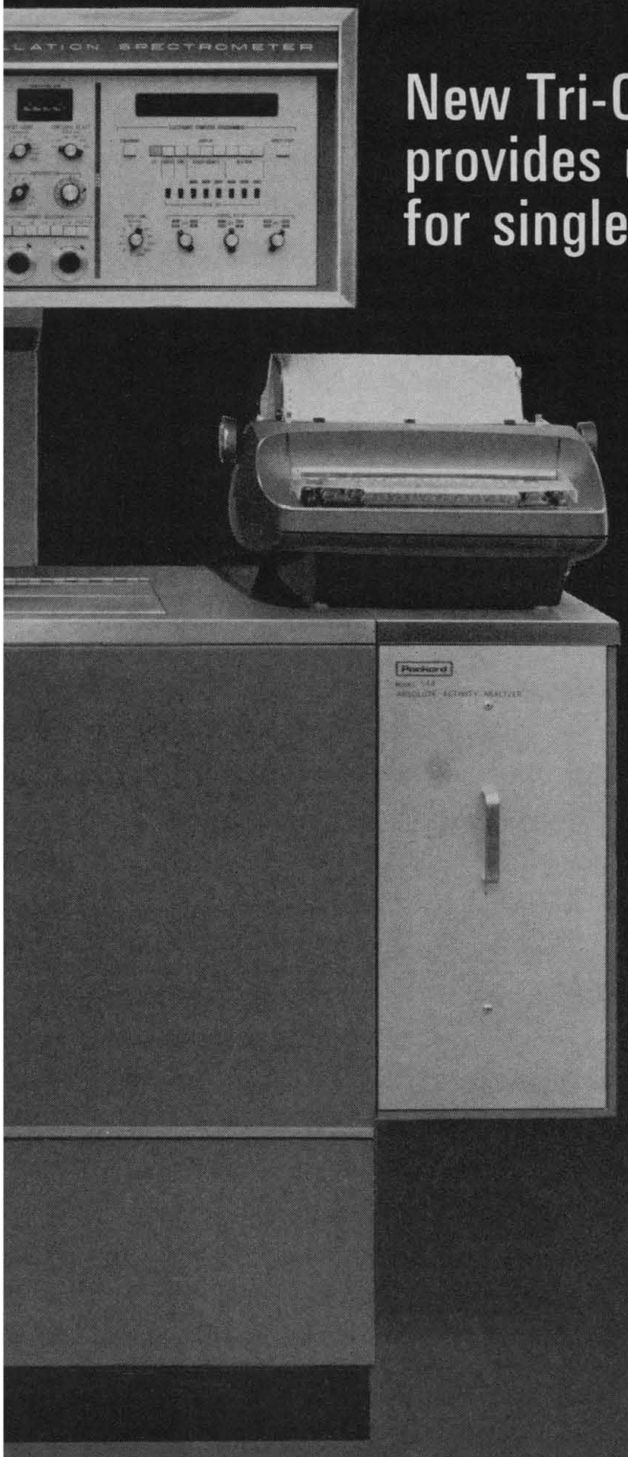
Leadership in the creation of knowledge brings great national prestige. When a conspicuous contribution is recognized with a Nobel prize, a nation's stature increases. The United States has been receiving about half of the Nobel prizes, and most of the winners do their research at universities.

A serious failure of academic scientists has been in educating the public with regard to the role of scholarly inquiry in the universities. The necessity to do so became acute a few years ago. At that time a number of articles in major publications asserted that research efforts by professors were destructive to the teaching functions of universities. Critics neglected to mention that often the most incompetent professors in science departments are those who do no research. The administrations of many colleges and universities quietly responded to the criticisms by making clear to their faculties the importance attached to the teaching function. However, the public is largely unaware of these steps, and an impression remains that good teaching and research are incompatible. This is an incorrect view.

With science evolving rapidly, a major task for professors is to keep up with developments in their field. The full-time instructor who presents material that is out of date defrauds his students in at least three ways: He fails to render proper guidance with respect to subject material, he fails to set high standards of scholarship, and he fails to inspire enthusiasm for learning. To be a good teacher of science, a professor must be intellectually virile. He must be part of the creative enterprise. The most practical means of keeping current with new developments is to participate personally in research activity. The sharply disciplining nature of cold-eyed peer evaluation induces research scientists to work hard at creative endeavor. As part of that effort they try to achieve awareness and understanding of new discoveries in their branch of science. Their students are beneficiaries.

A final role of academic research is in the graduate training of scientists for industry, government, and academia. If good basic research is not conducted in the universities, how will the nation obtain the elite scientists so essential to modern civilization?—P. H. ABELSON

LIQUID SCINTILLATION BREAKTHROUGH!



New Tri-Carb® Absolute Activity Analyzer provides ultimate data automatically for single and double-label experiments

With the new Model 544 Absolute Activity Analyzer it is unnecessary for the investigator to perform any intermediate operations. It is necessary only to put samples into the instrument, and the ultimate data—*the absolute activity levels of each of the isotopes present*—will be typed on the Tri-Carb Data Sheets.

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