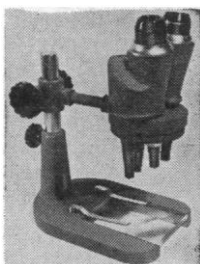


## EXCELLENT XMAS GIFTS OPTICAL BARGAINS



### STEREO MICROSCOPE

American-Made Instrument at Over 50% Saving. Up to 3" Working Distance — Erect Image — Wide 3 Dimensional Field. Used for inspections, examinations, counting, checking, assembling, dissecting. 2 sets of objectives on rotating turret. Standard pair of wide field 10X Kellner Eyepieces give you 23 power and 40 power. Helical rack and pinion focusing. 10-DAY TRIAL . . .

complete satisfaction or your money back.

Order Stock No. 85,056-W

full price . . . \$99.50 f.o.b. Barrington, N.J.  
(Shipping wt. approx. 11 lbs.) Send check or M.O.

### Now — See The Satellites NEW, LOW PRICE SATELLITE TELESCOPE

First Time — Only \$9.95 Postpaid

Get ready for a terrific sky show as more Satellites are vaulted into space. See thrilling sights with our amazing Satellite Scope at unheard of low cost. Also view comets—use as a Rich-field Scope for viewing star clusters. 5 power—wide 12° field—slight distortion at outer edges because of unusual wide field. Use of high quality war surplus optics makes possible this bargain. Full 2" achromatic objectives—large 9mm exit pupil for night use. Scope is 10" long, weighs less than one pound.

Stock No. 70,150-W . . . . . \$9.95 Postpaid

### See the Stars, Moon, Planets Close Up! 3" REFLECTING TELESCOPE

60 and 120 Power — An Unusual Buy!  
Famous Mt. Palomar Type!



Assembled—ready to use! You'll see the Rings of Saturn, the fascinating planet Mars, huge craters on the Moon, Star Clusters, Moons of Jupiter in detail. Galaxies! Aluminized and overcoated 3" diameter high-speed f/10 mirror. Equatorial mount with lock on both axes. An Optical Finder Telescope, always so essential, is also included. Sturdy, hardwood, portable tripod. Free with scope—valuable star chart and 272 page "Astronomy Book". Order by Stock No.

— Send check or M.O. — Money-back guarantee!  
Stock No. 85,050-W (Shipping wt. 10 lbs.)  
\$29.50 f.o.b. Barrington, N.J.



### BRIGHT BEAM LAMP

Gives brilliant and uniform illumination! Optically designed for all close-work operations. Adjustable to almost any position. Widely used in conjunction with stereoscopic and dissecting microscopes, toolmakers' microscopes, magnifiers and loupes . . . excellent for use with student microscopes. Variable spot of light obtainable from  $\frac{5}{8}$ " diameter, very intense, to about 3", less bright, simply by sliding focus tube back and forth. Complete with bulb and daylight filter, on stand. Money-back guarantee.

Stock No. 15,001-W . . . . . \$27.50 postpaid

### INFRARED SNIPERSCOPE TELESCOPE & PARTS

See in the dark—without being observed. War surplus Sniperscope M-2, Gov't. cost about \$1200. Instrument complete, ready to use. Includes Power Pack, infrared light source. Will operate from 6 V auto battery. Battery or transformer available.

Stock No. 85,053-W \$150.00 f.o.b. Save still more money! Build your own Sniperscope! We will furnish instructions—parts, including: Power

Packs, 1P25A image tubes, light units, filters, etc. For details—request FREE Bulletin A-26-W.

### BUILD A SOLAR ENERGY FURNACE

Great Project for Geophysical Year!

A fascinating new field. You can build your own Solar Furnace for experimentation—many practical uses. It's easy—inexpensive, use your scrap wood. We furnish instruction sheet. This sun powered furnace will generate terrific heat—2000° to 3000°. Fuses Enamel to metal. Produces many unusual fusing effects. Sets paper aflame in seconds. Use our Fresnel Lens—14" diameter . . . f.l. 14".

Stock No. 70,130-W package of 1 . . . \$6.00 Postpaid  
Stock No. 70,131-W package of 2 . . . 11.00 Postpaid  
Stock No. 70,132-W package of 4 . . . 20.00 Postpaid

### WRITE FOR FREE CATALOG-W

Huge selection of lenses, prisms, war surplus optical instruments, parts and accessories. Telescopes, microscopes, satellite scopes, binoculars. Hand spectrometers, reticles, mirrors, Ronchi rulings, dozens of other hard-to-get optical items. America's No. 1 source of supply for Photographers, Hobbyists, Telescope Makers, etc. Ask for catalog W

Order by Stock No.—Send Check—Satisfaction Guaranteed

**EDMUND SCIENTIFIC CO.**  
BARRINGTON, NEW JERSEY

and their followers valued very highly that—I am quite sure—was expressed by the word *Geschick* in their motto. Shiga, the discoverer of trypan red, was, in Paul Ehrlich's judgment, certainly a *geschickter* collaborator and was probably proud of it.

WILFRED C. HULSE

Mount Sinai Hospital, New York

### Science and the High-School Student

There seems to be some likelihood that the definitive results of Mead and Métraux's study of the "Image of the Scientist among High-School Students" [*Science* 126, 384 (1957)] will be considered as applying only to high-school students and scientists. Since almost all of the appropriate age group attends high school these days, Mead and Métraux's sample is essentially a sample of that age group of the whole population. It is unlikely that this image of the scientist changes much with age. Hence, one concludes that the man in the street has very much the same image. Let us not censure high-school students, even by implication only, for sharing public opinion. The high-schooler who plans to become a scientist has about the same relation to his fellow students as the adult scientist has to his fellow citizens. He may as well get used to it while he is young.

It is likely that the same sort of results would have been obtained regarding physicians, ministers, nurses, or any other dedicated group of people. This not-for-me attitude is directed at the dedication, not at the profession. In view of the fact that about 90 percent of the population has an IQ of less than 120, the not-for-me attitude is common-sense realism, and the high-schoolers are to be congratulated on their good sense.

I suggest an unscientific generalization of the title to "Image of the Dedicated Minority as Seen by the Undedicated Majority."

M. J. WALKER

Storrs, Connecticut

In his comment on our article, M. J. Walker has combined three themes—the rejection of dedication, the extent to which the high-school student's attitude coincides with that of the man in the street, and the reasonableness of students with an IQ of less than 120 rejecting science as a career. As we pointed out, rejection of dedication in all fields of science is a characteristic of the attitude of post-World War II youth; it would extend to any profession which was seen as requiring an extreme degree of commitment. We know of no material that suggests that rejection of dedication and low IQ are systematically related and



an entirely new type  
flask heater with  
unmatched versatility



Several different flask sizes can be used in this one unit

Already proved by "in use" tests and nationwide acceptance, this improved flask heater has Monel mesh baskets that perfectly "nest" flasks and let you use several sizes in same unit! Uniform heat radiation . . . well-ventilated . . . stainless steel and aluminum double-case construction. No fabrics to become shoddy, saturated, or worn. Stepless controller available for extremely close control. Two models of heater for all popular flask sizes: \$22.50 and \$34.50; Controller \$20.85. Write for new TEMCO Catalog and name of nearest dealer.

THERMO ELECTRIC MFG. CO.  
568 Huff St., Dubuque, Iowa

## METABOLIC ASPECTS OF TRANSPORT ACROSS CELL MEMBRANES

Edited by Q. R. Murphy

This symposium is primarily devoted to problems involving skin, nerve, gastric, and intestinal mucosa, and the kidney, with discussions of fluid exchange and the effect of metabolic derangements on ion exchange in the whole organism. Attention is also given to possible correlations of clinical problems and basic information.

Fall, 1957 416 pages, \$7.50

THE UNIVERSITY OF  
WISCONSIN PRESS

430 Sterling Court  
Madison 6, Wisconsin

believe that there would be variations as the career in question was phrased as more or less intellectually demanding. While the attitude of today's high-school students may be said to prefigure the attitudes of the man in the street tomorrow, it is necessary also to recognize that these students have been exposed, rather more than their forebears, to articulate and concerted attempts to involve them in scientific careers, and so they may differ somewhat from their seniors today. The report is not in any sense designed to blame the high-school students but rather to focus attention on the one-sidedness of a picture of the scientific life which overemphasizes the gap between those who do and those who do not participate in it.

MARGARET MEAD  
RHODA METRAUX

New York, New York

### Grants Without Grind

An editorial in *Science* [125, 97 (18 Jan. 1957)] has helped to dispel ignorance among scientists about where and how to seek support for research. It has made me think of ways in which foundations, on their part, could improve their relations with research workers.

Years ago, that task would have been simple. The foundation would have endowed a university or a museum, which then would have hired a staff with tenure for life. That kind of security still works well in respect to basic research in many fields. But there is a greatly increased need today for the support of studies related to specific questions of current interest—a support that does not permit so-called “crash” programs to become “slap-dash” programs.

The amount of time and effort of research workers, and of research administrators, that is required to prepare requests for grants and fellowships has become appalling. At a recent conference of foreign medical educators, one of our European colleagues wondered why so large a proportion of the advance made in his field comes from European, rather than American, scientists, despite the greater funds available here. He hinted that this may be because “we in Europe are free from your kind of red tape.” While he and his colleagues pursue their studies, we spend our time preparing requests for funds—often repeatedly, because many of them are rejected. The unsuccessful applicant as a rule does not receive the benefit of the critical appraisal which the foundation's advisers may have spent many hours in preparing. One foundation reports that the average number of references is seven; it costs the time of seven scholars to write seven thoughtful letters. (If, occasionally, such letters are written carelessly, both the

# Packard Instruments

## 1 Liquid Scintillation Spectrometers

## 2 Automatic Fraction Collectors

## 3 Windowless and Flo-Window Counters

# 1

### TRI-CARB LIQUID SCINTILLATION SPECTROMETERS

For counting Tritium, Carbon-14 and other beta emitting isotopes.

Provides the most simple and convenient method for precise counting of beta samples that go into solution with liquid phosphors.

Aqueous samples of various types may also be readily counted.

Certain materials that are not soluble in liquid phosphors may be counted in suspensions.



Request  
Bulletin  
314

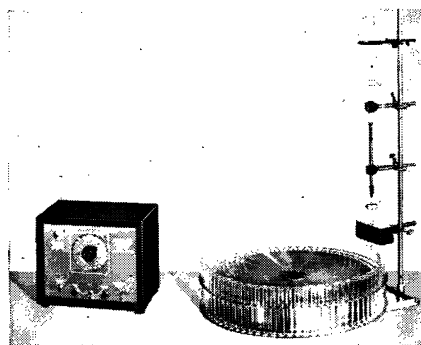
# 2

### AUTOMATIC FRACTION COLLECTORS

For precise column chromatography.

Provides both time and drop counting. Can be furnished for time operation only at commensurately lower cost.

Drops from column fall directly into test tubes. There are no intermediate collecting vessels, glass arms, or funnels to cause mixing, contamination, evaporation, etc. This is important where accurate separations are required or where radioactive tracers are used.



Request  
Bulletin  
230

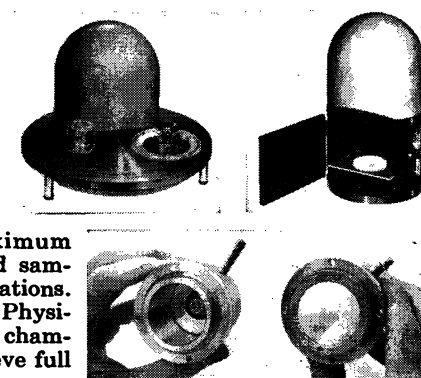
# 3

### WINDOWLESS AND FLO-WINDOW COUNTERS

Both types can be used for Geiger and proportional operation.

Windowless Flow Counter, Model 200A, provides maximum sensitivity for counting solid samples which emit very soft radiations. Has essentially unlimited life. Physical arrangement of sample in chamber makes it possible to achieve full  $2\pi$  geometry.

Flo-Window Counter, Model 210, features a very thin metalized window of Du Pont Mylar which offers a minimum of obstruction to low energy radiation. Isolates counting chamber from sample. Eliminates static charge, vapor effects, accidental contamination, etc.



Request  
Bulletin  
200

# Packard Instrument Company

DEPT. A • P. O. BOX 428 • LA GRANGE, ILL.