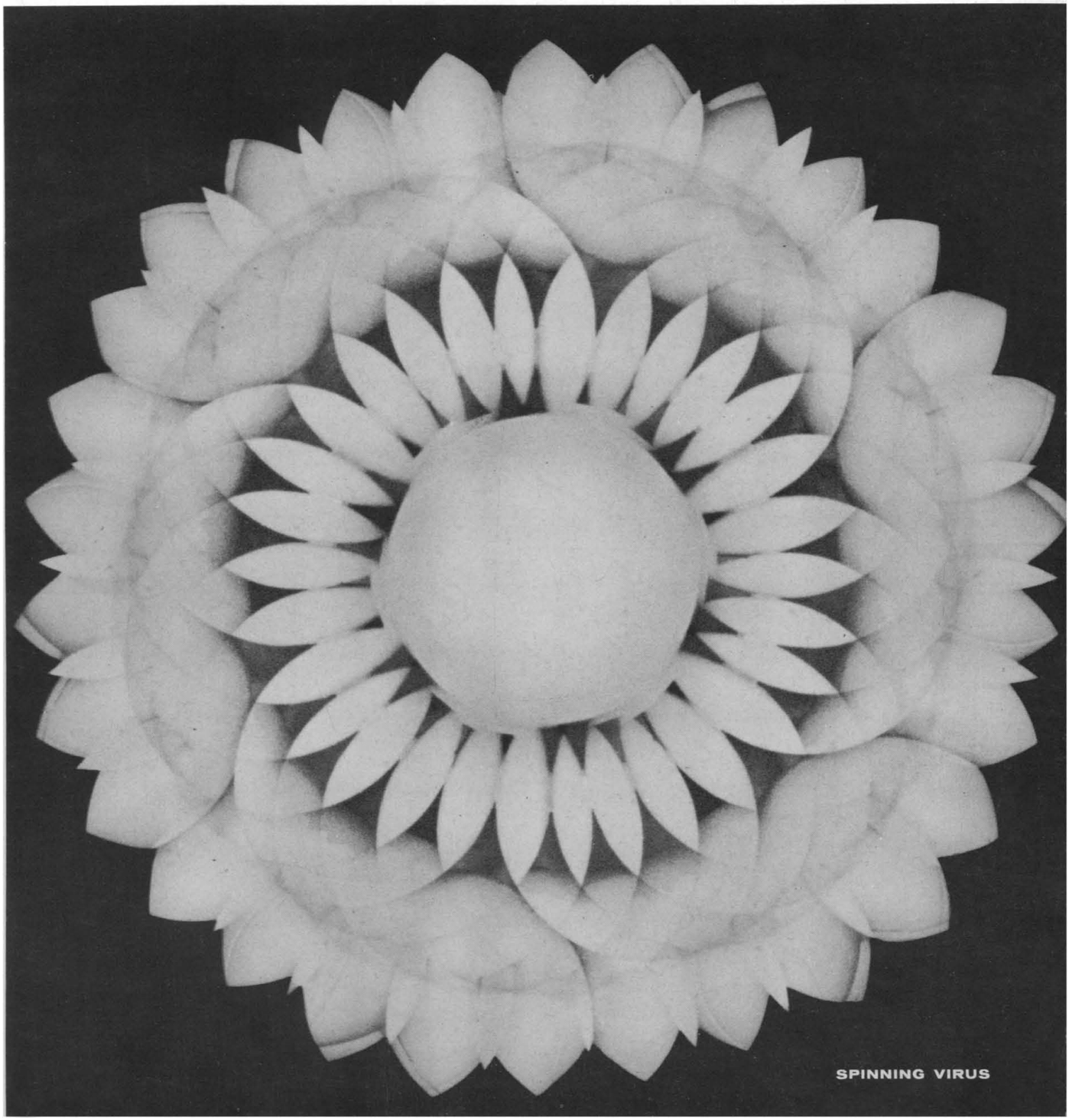
SCIENCE

30 April 1965
Vol. 148, No. 3670

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE



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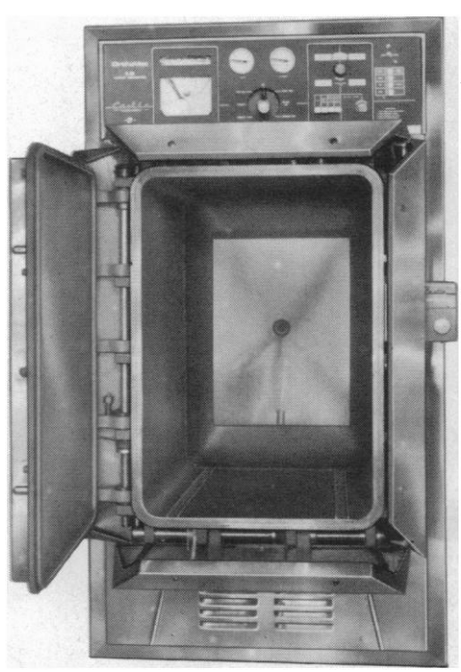

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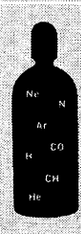

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SCIENCE

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

he American Association for the Advancement of Science was founded in 1848 and incorporated in 374. Its objects are to further the work of scientists, to facilitate cooperation among them, to nprove the effectiveness of science in the promotion of human welfare, and to increase public under-anding and appreciation of the importance and promise of the methods of science in human progress.

COVER

Ping pong balls used as a model of yellow mosaic virus in the turnip. Partial rotation and superimposition of photographs of such a model yield information about the radial symmetry of the virus. If the degree of rotation corresponds exactly with a regularly repeating pattern around its center, then the result is a more prominent version of the original; if not, then, as with this model, the result shows no resemblance to the original. See page 638.

IBM SYSTEM/360 gives you widest available selection of input, output, and storage devices.

Often, a scientist or engineer needs to have available a massive quantity of up to date data . . . and needs to retrieve some or all of that data for further studies.

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IBM SYSTEM/360 isn't a single, standard computer. It's your own special-purpose computer—fast, big and versatile.

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For larger storage requirements, choose the IBM 2302 Disk Storage. Capacity can be either 112.14 or 224.28 million bytes.

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Graphic Output

The IBM 7404 Graphic Output Unit automatically plots graphs, maps, and diagrams from computer-generated information.

It plots points, prints symbols or draws lines (at a rate of up to 280 inches per minute) on a 29" square surface.

In science and engineering, it can be used to evaluate results of wind-tunnel tests, prepare census and weather maps, draw portraits of underground petroleum fields, simulate and test piping networks.

Graphic I/O: When you need to see what you're doing right away

A new IBM computer-controlled system lets you work with graphic information at electronic speeds. A design engineer, for example, can scan an existing microfilm image or call out an image that has been stored digitally within SYSTEM/360.

He can display this image on a CRT, change it with a light pen, record the image permanently on microfilm and see it projected 19 times original size within seconds.

The system includes an IBM 2250 Display Unit, an IBM 2280 Film Recorder, an IBM 2281 Film Scanner or an IBM 2282 Film Recorder/Scanner. Each unit in the system can also be used independently. They are linked to IBM SYSTEM/360.

DISPLAY—With an electronic light pen on the 2250, you can change displayed images that have been called from storage or microfilm. You can create original drawings right on a cathode ray tube. The light pen enables you to draw lines, modify a curve, change a dimension or label. Up to five display units can be used simultaneously with SYSTEM/360.

2280 FILM RECORDER—Records images on 35-mm. roll film. Maximum image size is 1.2 in. sq. After the first image has been exposed, it can be projected within 48 sec. The 2280 develops the film at 40 in./min. The processed images can be magnified 19 times and viewed on a rear-projection screen.

2281 FILM SCANNER—This unit transmits images, in digital form, from the film to SYSTEM/360. Lines on the film can be as fine as 1/2,000 of image size and spaced 1/500 of image size apart.

The 2282 combines recording and scanning functions in one unit.

Use this graphic data processing system to help design bridges, electrical circuits, machine parts, buildings. Use it for display of mathematical results. Use it to monitor experiments. It lets you see results of your work while you're working.

When you need to collect, reduce and analyze a lot of data in a hurry, you need SYSTEM/360

IBM SYSTEM/360 not only gives you a fast way to manipulate large or complex masses of data. It gives you fast economic ways to collect it through an 1800 Data Acquisition and Control System via an 1827 or 1070 Process Control Terminal.

With the 1800, you can have a real-time, on-line open or closed loop testing system—one that you can expand later, in the field, without penalty . . . one that is completely supported with a monitor programming system that makes it easier to use.

The 1070, located at a remote installation, connects either to an 1800 system or SYSTEM/360 over standard communications lines. It gives either the 1800 or SYSTEM/360 direct communication with instruments and control devices.

With the 1070 or 1800, coupled with SYSTEM/360, you can 1) determine the feasibility of an experiment, 2) determine sensitive variables and their acceptable levels, 3) predict and explain the validity of results, 4) predict the safety margin and control stability of your experiment, 5) simulate your total test facility, 6) conduct a planned test program.

SYSTEM/360 allows you to choose the on-line system you need. You can couple an 1800 with SYSTEM/360 for tremendous versatility and power. You can use the 1800 alone. Or you can connect analog and other input devices directly to SYSTEM/360.

If you're involved in jet engine testing...X-ray therapy control...electrocardiogram analysis . . . bubble-chamber film scanning . . . controlling a fluid process—either off line or on, closed loop or open—IBM SYSTEM/360 can help you.

The spectrum of I/O devices provided with SYSTEM/360 can provide you with the tool to hand tailor your own man-machine system. Together, you and your computer can shorten design or experimental time, reduce your clerical computational load in data collection, reduction and analysis and free you to do what you were trained to do.

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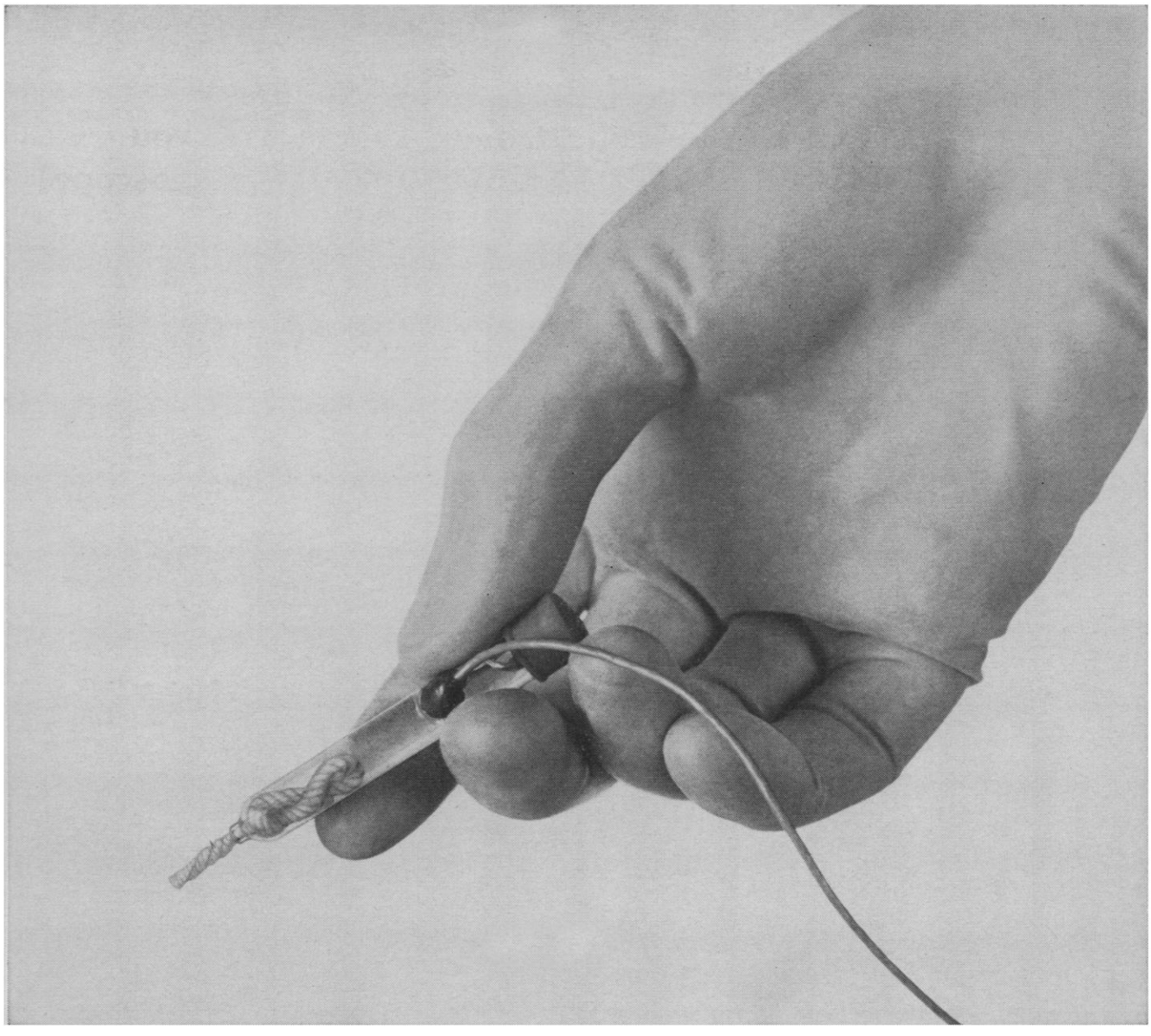

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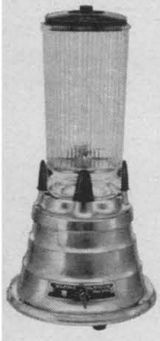

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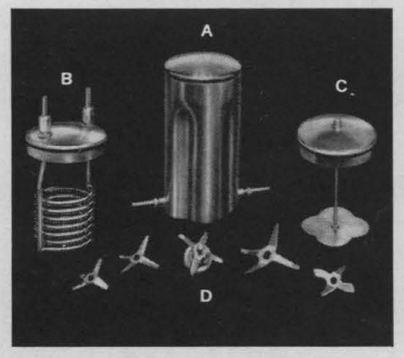

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maintained. As a result, this salt-water connection between two oceans would provide a wonderful opportunity for observing the interaction of previously separated marine communities.

The chance to study such a dramatic ecological adjustment must not be lost. Current reports indicate that engineering surveys may start in about a year, with actual construction getting under way about four years later. Completion of the canal might take another 10 years. However, in order to take maximum advantage of the situation, distributional surveys, taxonomic studies, and related oceanographic work should be initiated as soon as possible after the site is selected.

A scientific effort of this magnitude certainly would provide an excellent opportunity for broadening scientific cooperation among the nations of the Western Hemisphere. This, too, cannot be permitted to pass by. I hope that preliminary planning will start soon.

JOHN D. DAVIS
Department of Zoology,
Smith College,
Northampton, Massachusetts

The Smithsonian

It seems to me that D. S. Greenberg (12 Mar., p. 1266) unfairly depreciates the original contributions to knowledge made by the Smithsonian in earlier times. When I was elected to the National Academy I believe there was no institution in the United States which had more members in the Academy, unless possibly Harvard University.

Greenberg makes no mention of Secretary Baird, who was decorated by nearly all maritime nations for his work for the fisheries, and who was no less distinguished in herpetology and ornithology besides.

Nor did he mention Secretary Walcott, who was president of the National Academy and probably more influential with Congress and administrations than any other scientist of his time. His advice led Andrew Carnegie to endow the Carnegie Institution. He himself conceived and founded the National Advisory Committee on Aeronautics. I heard a paleontologist remark that Walcott contributed more than all others to the knowledge of Cambrian paleontology, and 75 percent of his contribution was made by his expeditions in the field while secretary of the Smithsonian. He founded the Research Corporation and promoted R. H. Goddard.

It would be improper in me to allude to scientific work of the fifth secretary. But I may at least mention Stejneger, Fewkes, Holmes (who was a leader in three fields of science and art), Hrdlicka, Merrill, Roberts, Stirling. Indeed, space forbids that I should even name those who, during my 70 years at the Institution, have added to the distinction of its scientific researches, and whose discoveries are textbook familiarities.

CHARLES G. ABBOT
4409 Beechwood Road,
Hyattsville, Maryland

The article on the current increase in research activity at the Smithsonian Institution must have aroused considerable interest in all centers of taxonomic study. It rightly points out that there are not many centers with sufficiently large collections for extensive work in systematics, although some active academic centers may be surprised to learn that "universities have pretty well dropped out of systematic biology."

The article goes on to say that the Smithsonian does not "threaten any existing institution." The established centers which are doing significant taxonomic work, both within and outside the universities, while applauding the success of the Smithsonian's new leadership, may perhaps be pardoned for wondering what the effects of this success will be on their own institutions, with their far more limited resources. All administrators should be pleased at rising salary levels, if only they can find the money to equal them, and the stimulus of a stepped-up program at the Smithsonian should enliven the field of systematics everywhere, if only the limited supply of well-trained systematists can continue to be available to all institutions traditionally engaged in this work.

Many thoughtful persons, scientists as well as administrators, may raise the question: If the federal government is to increase its support for systematics at the Smithsonian, which has direct access to Congress, will it also (for example, through the National Science Foundation) extend truly comparable support to the other long-established centers of significant systematic study?

JOHN W. BODINE
Academy of Natural Sciences of Philadelphia, Philadelphia, Pennsylvania

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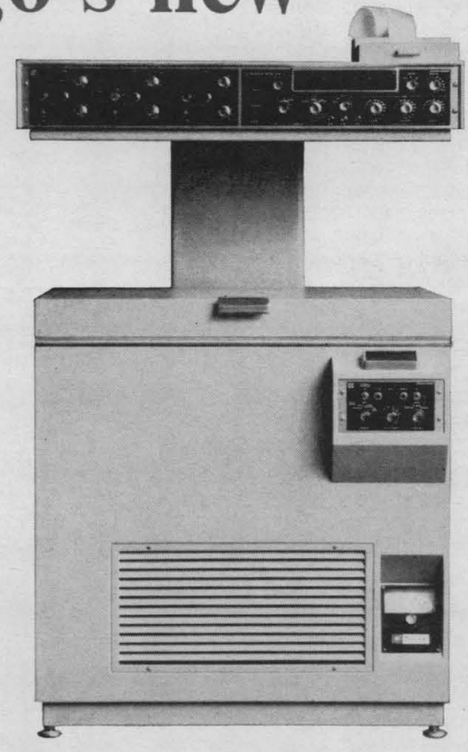

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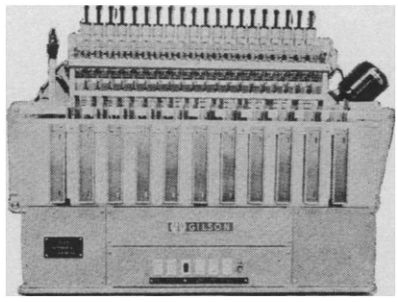

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A severalfold increase in accuracy and reproducibility of results is provided in comparison with a nondifferential method.

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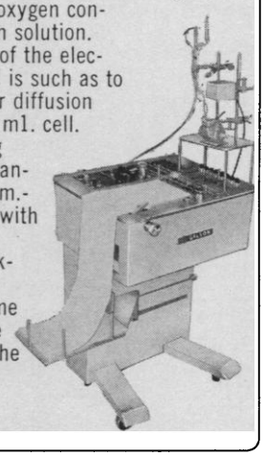
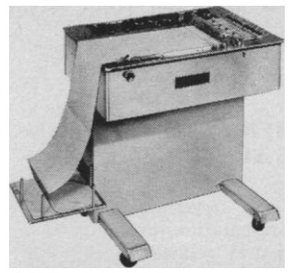
Recording is done on fan-folded, 20-cm.-wide paper with millimeter square markings. The response time is about one second for the full span of 200 mm.





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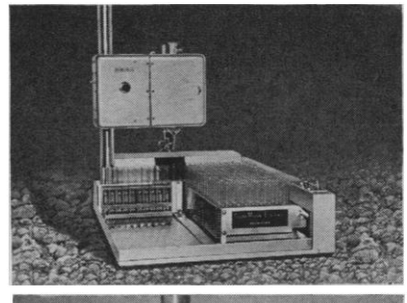

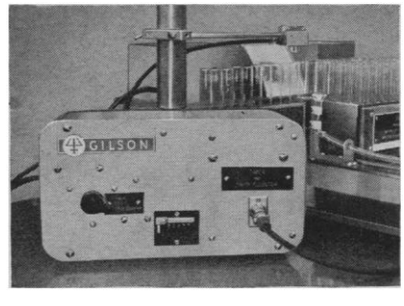

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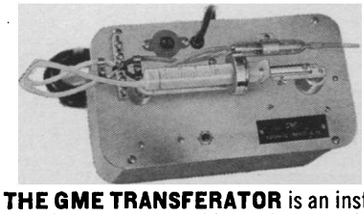

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SCIENCE

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Gordon Research Conferences

One of the most immediately fruitful of the many channels of communication among scientists is the research conference that brings together a selected group of participants all of whom are actively engaged in a particular area of research. One of the best examples is the annual series of Gordon Research Conferences, of which there will be 54 this summer, on such topics as Nucleic Acids, Physical Metallurgy, Low Temperature Geochemistry, Biomathematics, and Energy Coupling Mechanisms. The full program appeared in the 12 March issue of *Science*.

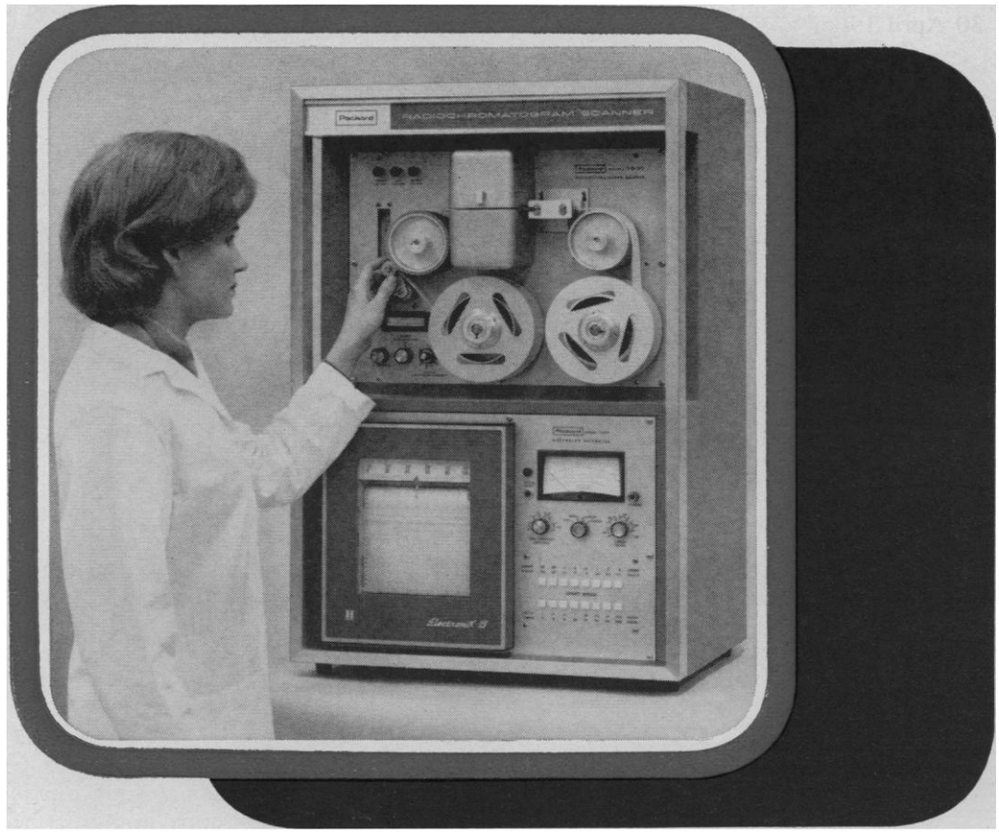
The conference customs have long been established. The conferences are held on five New Hampshire campuses that offer the kind of pleasant isolation that is conducive to intensive and uninterrupted consideration of a problem. Each lasts a week. Each includes upward of 100 participants, from this country and abroad, selected from industry, universities, and private and government research laboratories. Each morning from Monday through Friday there is a 3-hour session and each evening from Monday through Thursday another session that continues—through informal discussions—until the last participant decides to go to bed. Afternoons are spent in individually arranged discussions, reading, or recreation. After five pleasant days, nine intensive sessions, and numerous informal contacts, the participants make way for the next group and the procedure starts over on a different topic the following Monday morning.

A feature of the Gordon Conferences that has contributed largely to their effectiveness is the ban on attributed publication. Any participant is free to publish or not, but he may not say that his paper was presented at or is based upon the discussion at a Gordon Conference. Because many publications do result, the whole scientific community benefits, but because no participant need worry about being quoted or about having to meet a publication deadline, everyone is free to present work in progress, new ideas, unanswered questions, or speculative hypotheses.

The conferences were started in 1931 by Professor Neil Gordon of Johns Hopkins University. They were for a time called the Gibson Island Conferences, but the name was later changed to honor their founder. They hold a unique position in the AAAS structure, for they have their own director, W. George Parks, and their own Council and Board of Trustees.

The success of the conferences has resulted in steadily increasing demands that more be held. From the start in 1931, the number grew to 6 in 1940, 16 in 1950, 36 in 1960, and 54 in 1965. A West Coast series has recently been started with two Gordon Conferences held at Santa Barbara, California, in the wintertime. Conference officers have helped other groups to organize similar meetings in the U.S. and abroad. The European series, called Euchem Conferences, includes three this year, on Electron Spin Resonance, High-Temperature Chemistry, and Mass Spectrometry, and six conferences are planned for next year.

Among all the methods for the storage and retrieval of scientific information, one of the best is still that of storing it in human brains and retrieving what is most pertinent at a particular time by asking intelligent questions. From 14 June to 3 September the Gordon Research Conferences will use this method to compare and consolidate on-going work and to help some 5000 scientists lay the basis for future advances in 54 active research areas.—DAEL WOLFLE



For thin layer or paper radiochromatography . . . the word for this scanner is Versatile!

Every Packard Model 7201 Radiochromatogram Scanner is shipped ready to use for either paper strip chromatograms or thin layer chromatography plates. And it takes less than a minute to make the changeover from one medium to the other.

Versatility with chromatography media is only part of the story...by any standards this new scanner is unmatched for flexibility, sensitivity and ease of operation. Check these other important features:

- Handles chromatograms from 1/2 to 2 inches wide—lengths up to 150 feet—all types of papers up to Whatman 3MM
- Ultra-sensitive 4-pi counting with two windowless gas flow Geiger detectors (2-pi geometry with TLC plates)
- Four collimator slit widths provide desired resolution
- Specially-designed detector heads and heavy lead shielding reduce background to less than 10 cpm ...anti-coincidence circuit reduces effects of cosmic radiation
- All operating controls conveniently located on the front panel...pushbutton selection of 16 scanning speeds

Model 7201 also features synchronized recorder and strip speeds, optional digital integrator, automatic indication of origin and solvent fronts, and automatic shutoff of gas and power. Ratemeter provides 9 linear count ranges and logarithmic scale; 8 time constants. Electronic circuitry is all solid-state.

For detailed information contact your Packard Sales Engineer, or write for Bulletin 1038.

Packard

PACKARD INSTRUMENT COMPANY, INC.
2200 WARRENVILLE ROAD • DOWNERS GROVE, ILLINOIS 60515
TELEPHONE: 312/969-6000

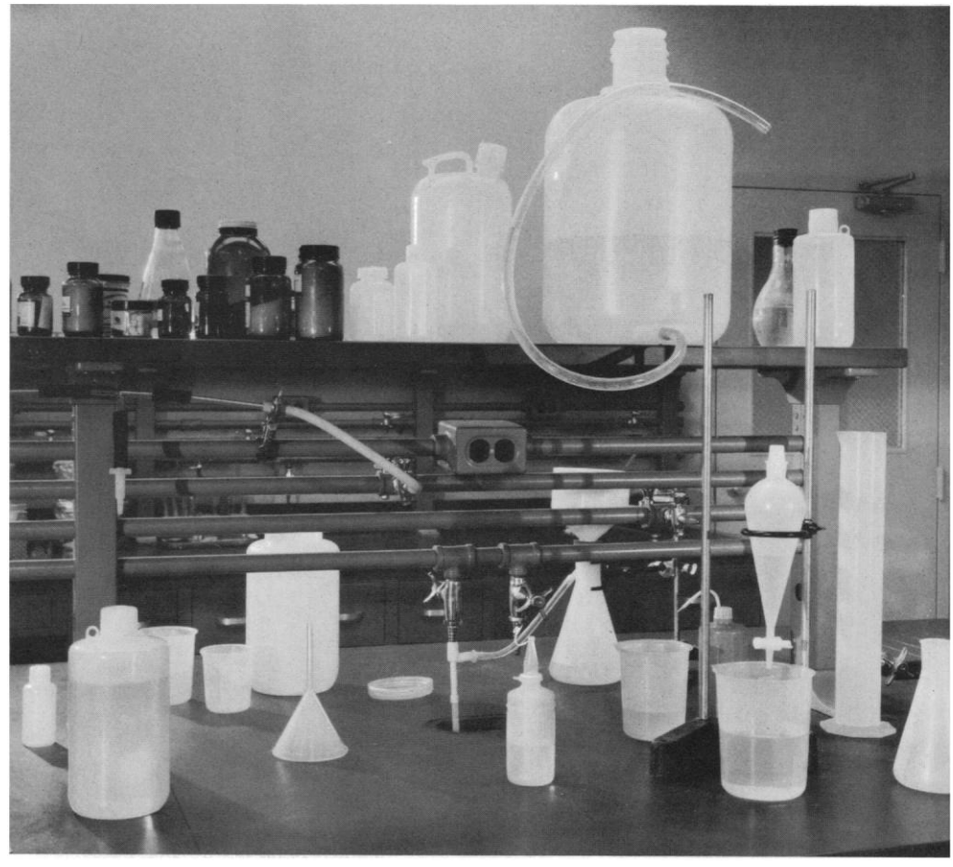
HAVE YOU TAKEN A GOOD LOOK AT NALGENE® LABWARE LATELY?

TAKE A GOOD LOOK RIGHT NOW!

NALGENE LABWARE

IS MODERN IN DESIGN, MATERIAL AND FUNCTION

Over 15 years ago, Nalge recognized the broad spectrum of advantages offered by the exciting, new materials of the post-war era. Pioneering achievements revolutionized molding techniques. The integration of new resins, advanced know-how and unique design resulted in modern labware. Ingenuity and experience have created labware with new chemical resistance, new freedom from breakage, new economy, new ease of handling. Creative research has brought a new look in labware. At Nalge, innovation is our byword . . . quality our trademark.



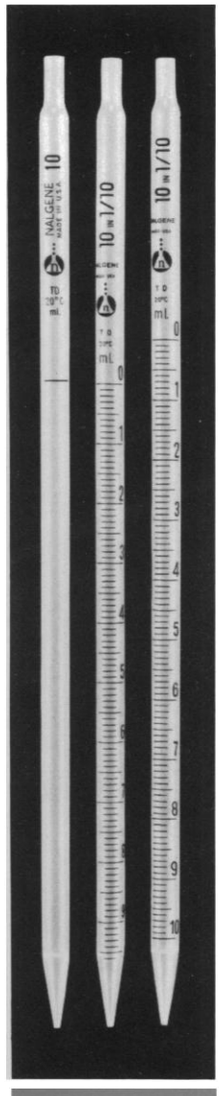
NALGENE LABWARE IS UNIQUE IN DESIGN

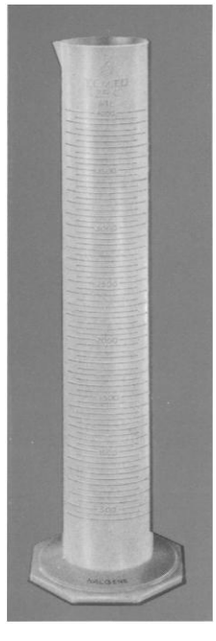
The Nalgene Aspirator Bottle is complete with serrated tubulation and built-in loop flawlessly blow-molded in one piece. It's stronger and provides even greater convenience and utility. And, of course, it's unbreakable.

The Nalgene Separatory Funnel is a true triumph. Funnel, stopcock housing and stem are molded in one unbreakable, seam-free polypropylene unit. The separation line between two immiscible liquids is visible right down to the stopcock housing. Teflon* TFE plugs never need lubrication.

The Nalgene Filter Pump is a masterpiece of efficiency. No other aspirator pump, of any material, at any price, can achieve so high a vacuum so quickly. No other pump operates so efficiently. Molded of polypropylene, it's unaffected by highly corrosive materials.

The Nalgene Automatic Constant Volume Pipettor is precision designed for fast, safe dispensing of fixed quantities. Made of conventional polyethylene with a polypropylene measuring chamber. It delivers the exact amount automatically, every time.



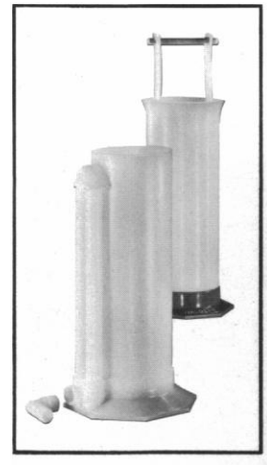


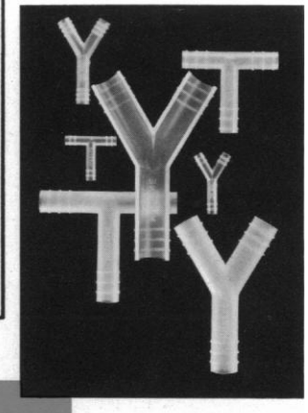
NALGENE LABWARE

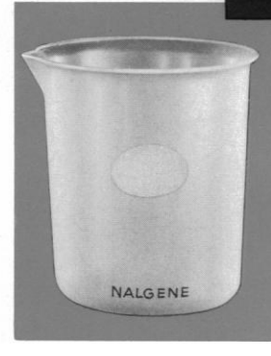
IS ACCURATE

Nalgene Pipets are individually calibrated to exact tolerances. The limits of error do not exceed 0.06ml. Molded of polypropylene with permanently fused-in graduations. Bold "Magni-Vue" markings are easy to read—won't wear away. These pipets always dispense uniformly . . . are autoclavable.

Nalgene Graduated Cylinders are precision molded for maximum accuracy. Calibration is well within Federal Specification Volumetric Apparatus, Glass-DD-V-581a. There is no meniscus . . . takes the guesswork out of volume reading—even with clear liquids. Unbreakable—drop them . . . they only bounce.







NALGENE LABWARE IS EASY TO CLEAN...SAFE TO HANDLE

Nalgene Automatic Pipet Rinsers, Baskets and Jars are the safe assembly for washing pipets easily, quickly, automatically. They're rugged, low-cost and efficient. And, the natural resilience of polyethylene prevents pipet breakage.

Nalgene Connectors are flash-free—precision tooled for smooth, uniform bores. Rigid construction assures a lifetime of trouble-free use. Easy to clean, autoclavable. For laboratory applications wherever tubing is used.

Nalgene Griffin Low Form Beakers are molded of corrosion-resistant polypropylene. Unbreakable, never slippery to handle, easy to clean.

NALGENE LABWARE IS CHEMICALLY RESISTANT . . . OFFERS YOU A CHOICE OF MATERIALS . . . AND A COMPLETE LINE

The chemical resistance you need—you get—with the right materials. Nalge matches the resin to the molding process . . . carefully selecting the correct type, the precise grade—and often the precise brand.

Conventional polyethylene, used in Nalgene wash bottles, is translucent and extremely flexible.

Linear polyethylene used in Nalgene Buchner funnels is autoclavable. It is opaque, stronger, more rigid than conventional polyethylene.

Polypropylene, used for Nalgene solution bottles, is translucent . . . the most rigid and strongest of the polyolefins . . . with excellent chemical resistance and fully autoclavable.

Teflon* FEP—fluorocarbon resin, used for Nalgene beakers and bottles, is flexible, translucent and autoclavable. Virtually indestructible . . . it ignores heat and cold from −270° C to +205° C . . . resists practically all chemicals.

Polycarbonate, used for Nalgene centrifuge ware, is window-clear, very tough and rigid. It has outstanding impact and tensile strength. Autoclavable, and useful for temperatures from −100° C to +135° C.

*DuPont registered trademark

NALGENE LABWARE IS UNBREAKABLE . . . AND ECONOMICAL

That's the pièce de résistance . . . that makes everything else a fringe benefit. Nalgene Labware is unbreakable! It can do everything that other lab materials can do . . . except break. It's safe for the harried professional or the inexperienced student. And because it's virtually indestructible, your replacement costs go way down. Use the money you save for other equipment.

The Nalgene Labware line is shown in our new 36-page Catalog O-165. A simplified, uniform discount schedule now applies to a majority of Nalgene products. Assortments may be made for maximum discounts.

TO SEE WHAT WE MEAN . . . WHY MORE AND MORE LABS ARE USING NALGENE LABWARE . . . SEE YOUR LAB SUPPLY DEALER, OR USE THIS COUPON.

NALGENE LABWARE
Leader in quality plastic labware since 1949

The Nalge Co., Inc., Dept. 27864
75 Panorama Creek Dr., Rochester, N. Y. 14625

Please send:

☐ New 36-page Catalog O-165, with chemical resistance chart. ☐ Sample connectors.

Name .....
Position .....
Company or Institution .....
Street Address .....
City ..... State ..... Zip .....

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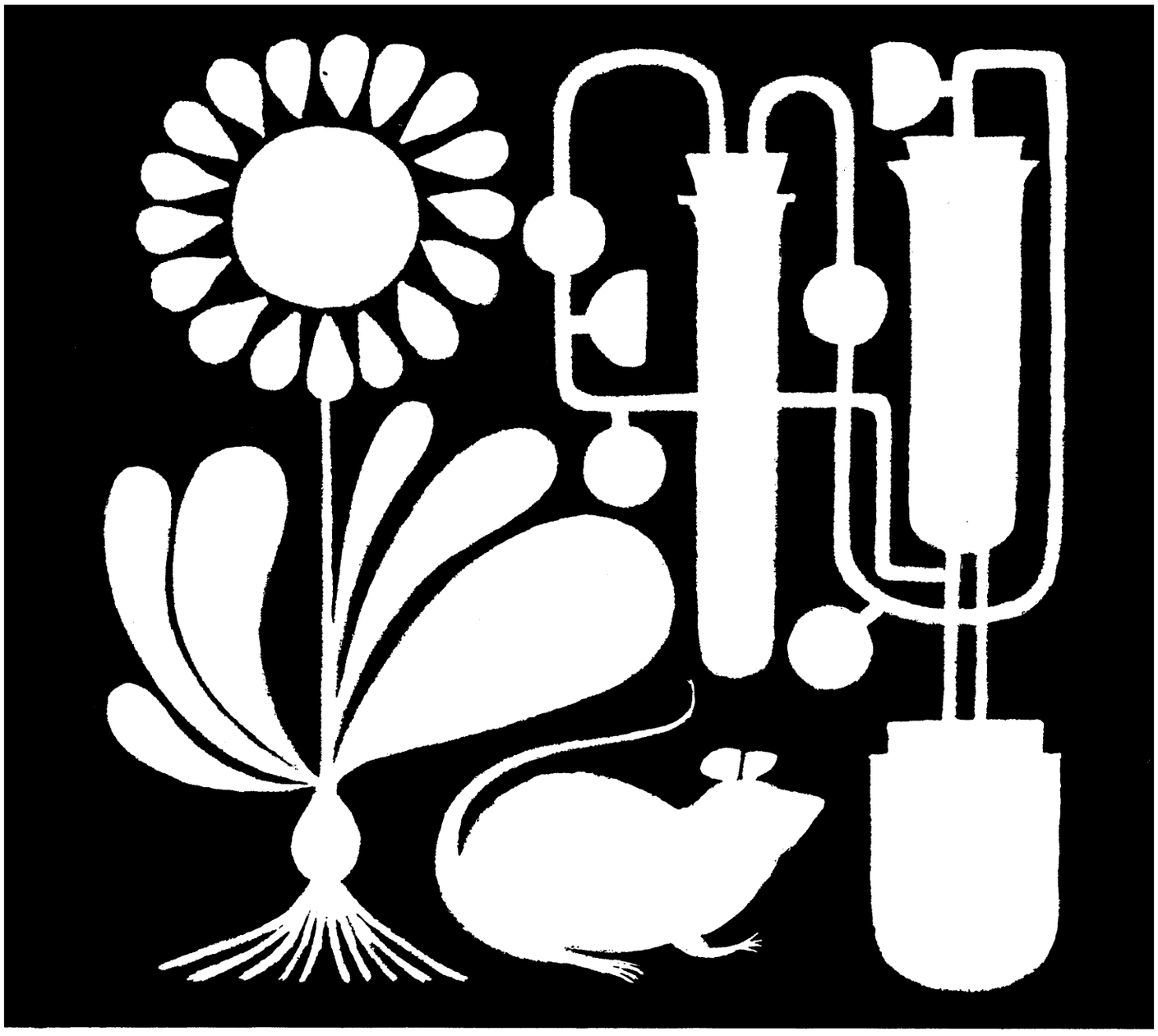

How often do labeled biochemicals get the nod?

Or, what percentage of the time do biochemists, chemists, physiologists, microbiologists, physicians, immunologists, biologists, endocrinologists, cell biologists, enzymologists, botanists, pharmacologists, biophysicists, et al., solve their biochemical-type problems by turning to tagged biochemicals? Answer: 44.2% of the time.

This figure comes from our just-completed survey of exactly one issue (recent) of a major biochemistry journal. And if you don't mind extrapolation from a solitary datum, you might conclude that marked biochemicals now represent the major tool for solving a multiplicity of biochemical puzzles.

This conclusion pleases us because we have an impressive list of tagged nucleic acids and their precursors, antimetabolites, amino acids, sugars and sugar phosphates and other compounds of biological importance. (Need our catalog?)

Enough of generalizations. We particularly want you to know about our deoxyribonucleosides and ribonucleosides like: thymidine, uridine, and cytidine. These and many others are available with C^{14} and/or H^3 labeling. Never out of stock and never more than a day away from you.

Finally: if there's a rush for one of our products—or you just wish additional information—call us collect at 914-359-2700. Ask for Maryann.

Schwarz BioResearch, Inc.

Orangeburg, New York 10962

New Products

Ultrasonic disintegrator and cleaner consists of a 5-inch (12.5 cm) diameter stainless steel tank for single-beaker applications and cleaning of individual items, and a hand-held probe of 1-inch face diameter for disintegration and disruption of cells, homogenization, dispersion, atomization, and selective cleaning. Basic unit comprises an ultrasonic generator and the tank in a single case. Energy for the tank is provided by a 2-inch diameter, solid, stainless steel probe mounted at its nodal point in the bottom of the tank. The probe is magnetostrictively energized by a continuous power level of 100 watts from the built-in generator. A toggle switch transfers the generator power from the tank to the external hand-held probe. This probe can be used to sonify small quantities of liquid; it may be either hand-held or clamped in a stand.—D.J.P. (Interlab, Inc., Dept. S426, P.O. Box 38, Harmon-on-Hudson, N.Y. 10520)

Laboratory glassware kits; eight organic-chemistry kits are designed for instructional aid in elementary, general, and advanced organic chemistry, organic preparations, general biochemistry, and qualitative organic analysis. Five of the kits, in standard 24/40, 19/22, and 14/20 joint sizes, meet virtually all experimental requirements of the 17 leading organic textbooks by providing 34 standard set-ups and additional flexibility. Set-up reference sheets match each of these kits to the requirements of each text. The other three kits, all in standard 19/22 size, are accompanied by instruction and care manuals describing the 14 set-ups provided by these kits. All components are of pyrex for thermal and mechanical strength and chemical resistance. Kits are packed in storage boxes with fitted recesses to protect the glassware. List: From $60 to $90 per kit.—D.J.P. (Corning Glass Works, Dept. S427, Corning, N.Y.)

Infusion pump, model 975; 30 synchronous speeds and multiple syringes provide 330 reproducible rates of infusion from 0.46 μl/min to 154.8 ml/min. Pump accommodates 100-, 50-, 20-, and 5-ml standard glass or plastic syringes with or without Luer-Lok tips; a simple snap-on syringe plate is furnished for each syringe size. The 100-ml plate holds one or two 100-ml syringes, the 50-ml plate holds one or two 50-ml syringes, and the 20-ml plate holds one, two, or three 20-ml syringes; the 5-ml plate permits the use of one, two, three, or four 5-ml syringes. Soft, plastic-coated clips hold the body of the syringe snugly in place. Driven by a 100 rev/min synchronous motor; parallel-shaft gear box and precision stainless steel lead screw. A 30-position gear box permits the instantaneous selection of speeds over a 17,000 : 1 range; ratio between adjacent speeds is 1.4 : 1. Overload clutch terminates pumping when syringes are empty. Dimensions: 14 by 6.75 by 3.5 inches high (36 by 17 by 8.6 cm). Weight: 14 lb (6.4 kg).—D.J.P. (Harvard Apparatus Company, Inc., Dept. S420, Dover, Mass. 02030)

Water bath shaker, the Metabolyte, provides electronic control of agitation, temperature, and water level. Recirculating-water system helps to achieve both temperature gradient and control tolerance within 0.25°C. Samples are maintained at from 3°C above tap-water temperature to 80°C by an electronic controller which energizes an in-line immersion heater or a cold-water solenoid valve. Automatic circulation of cold water compensates for heat from exothermic reactions to maintain thermal uniformity. Tap water is tempered by passing through a heat exchanger before entering the bath. Temperature-control circuit utilizes solid-state switching for reliability. A solid-state speed controller provides infinitely variable speed adjustment between 40 and 400 rev/min. Agitation is reproducible and is indicated on a panel-mounted tachometer. Available in two models: the Gyrotory shaking platform rotates horizontally in a half-inch circular orbit to impart a smooth, swirling motion to liquid samples in flasks, beakers, or test tubes; the Reciprocal shaker provides vigorous horizontal back-and-forth motion with a 1½-inch (3.8-cm) stroke. Features include: right-angle mercury thermometer which is easily read without removal from the bath; electronic water-level control which replenishes water lost in evaporation; safety thermostat to guard against overheating; plug-in electronic modules to simplify maintenance.—D.J.P. (New Brunswick Scientific Co., Inc., Dept. S428, P.O. Box 606, New Brunswick, N.J. 08903)

Linear/log recorder, Graphicorder-10, is a 10-inch (25-cm) potentiometric null-balance recorder for continuous linear or logarithmic recording in one instrument. Has ± 0.25 percent of span accuracy on all ranges; time response of ⅔ second for a full 10-inch deflection. Dual chart speeds are standard: 1 in./min and 16 in./hr; six-speed chart drive is optional. Changes in d-c voltages from 300 μv to 10 volts can be plotted on one of nine ranges (1 mv to 10 volts); a range-adjustment knob permits selection of spans ≧ 30 percent of value selected. Available with either mercury-cell or zener-diode reference systems. Adjustable damping control eliminates lag and overshoot. Zero is quickly adjusted, regardless of range selected. Ink flow is skip-free under all conditions. Self-locating, synchronized sprockets grip and guide the paper from both sides; knob for small manual adjustments and rapid advance of chart. Disc integrator, chart take-up reel, solenoid event-marker, or other accessories may be added. Wide range of recording applications with spectrophotometers, gas chromatographs, *p*H meters, titrators, or other instruments for continuous or intermittent direct measurement of variables such as thermal conductivity, *p*H, temperature, pressure, and flow rate.—D.J.P. (Dynatronics Instruments Corp., Electronics Div. of Lab-Line Instruments, Inc., Dept. S393, Melrose Park, Ill.)

The material in this section is prepared by Denis J. Prager (D.J.P.), Laboratory of Technical Development, National Heart Institute, Bethesda 14, Md. (medical electronics and biomedical laboratory equipment).

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither *Science* nor the writers assume responsibility for the accuracy of the information.

Address inquiries to the manufacturer, mentioning *Science* and the department number.