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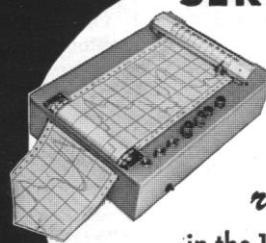
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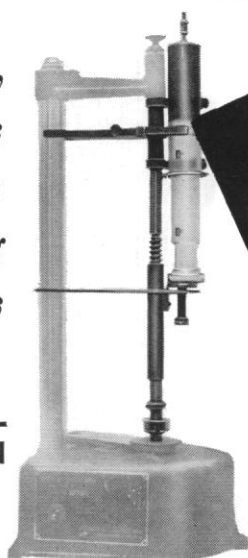
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Society for Experimental Biology and Medicine, Pacific Coast Section. (J. P. Baumberger, Dept. of Physiology, Stanford Univ.)

Society of General Physiologists. (D. Mazia, Univ. of California, Berkeley 4.)

Society for Industrial Microbiology, annual. (J. C. Lewis, Agricultural Research Service, USDA, 800 Buchanan St., Albany 10, Calif.)

Society for the Study of Evolution, an-

nual. (R. W. Holm, Dept. of Biological Sciences, Stanford Univ.)

Society of Protozoologists, annual. (J. F. Oliphant, Dept. of Biological Sciences, Stanford Univ.)

Society of Systematic Zoology, Pacific section. (D. P. Abbott, Hopkins Marine Station, Pacific Grove, Calif.)

Western Soc. of Naturalists, annual. (W. M. Hiesey, Carnegie Institution of Washington, Stanford, Calif.)

26-28. Gas Dynamics Symp., 2nd, Evanston, Ill. (A. B. Cambel, Technological Inst., Northwestern Univ., Evanston.)

26-29. Boundary Layer Research, internatl. symp., Freiburg, Breisgau, Ger-

many. (H. Görtler, Mathematisches Institut der Universität, Hebelstrasse 40 Freiburg, Breisgau.)

26-29. Mathematical Assoc. of America, 38th summer, University Park, Pa. (H. M. Gehman, Univ. of Buffalo, Buffalo 14, N.Y.)

26-30. American Mathematical Soc., 62nd summer, University Park, Pa. (J. H. Curtiss, AMS, 190 Hope St., Providence 6, R.I.)

26-30. Infrared Spectroscopy Inst., 8th annual, Nashville, Tenn. (N. Fuson, Infrared Spectroscopy Inst., Fisk Univ., Nashville 8.)

26-31. Low Temperature Physics and Chemistry, 5th internatl. conf., Madison, Wis. (J. R. Dillinger, Dept. of Physics, Univ. of Wisconsin, Madison 6.)

27. Society for Industrial and Applied Mathematics, summer, University Park, Pa. (D. L. Thomsen, Jr., 807 Enquirer Bldg., Cincinnati 2, Ohio.)

27-29. American Sociological Soc., annual, Washington, D.C. (Mrs. M. W. Riley, ASS, New York Univ., Washington Sq., New York 3.)

27-30. Biological Photographic Assoc., 27th annual, Rochester, Minn. (S. J. McComb, Section of Photography, Mayo Clinic, Rochester.)

28-30. Gas Chromatography, internatl. symp., East Lansing, Mich. (H. J. Noebels, IGC Symp., Instrument Soc. of America, 313 Sixth Ave., Pittsburgh, Pa.)

28-31. Soil Conservation Soc. of America, annual, Asilomar, Calif. (H. W. Pritchard, 838 Fifth Ave., Des Moines 14, Iowa.)

28-3. Cell Biology, 9th internatl. cong., St. Andrews, Scotland. (H. G. Callan, Dept. of National History, Bell Pettigrew Museum, The University, St. Andrews, Fife.)

29-30. Computers and Data Processing, 4th annual symp., Denver, Colo. (J. M. Cavenah, Denver Research Inst., Univ. of Denver, Denver 10.)

29-30. Econometric Soc., European meeting, Luxemburg, Duchy of Luxemburg. (Econometric Soc., Box 1264, Yale Station, New Haven, Conn.)

29-31. Group Psychotherapy, 2nd internatl. cong., Zurich, Switzerland. (S. Lebovici, 3, Avenue President Wilson, Paris 16^e, France.)

29-2. European Orthodontic Soc., annual, Genoa, Italy. (E. Fernex, 1, Place du Port, Genoa.)

29-3. International Geographical Cong., Tokyo, Japan. (W. W. Atwood, Jr., National Acad. of Sciences, 2101 Constitution Ave., Washington 25.)

30-5. American Psychological Assoc., annual, New York, N.Y. (R. W. Russell, APA, 1333 16 St., NW, Washington 6.)

31-2. Astronomical League, annual, Kansas City, Mo. (Mrs. W. A. Cherup, 4 Klopfer, Pittsburgh 9, Pa.)

31-3. Psychometric Soc., annual, New York, N.Y. (P. DuBois, Dept. of Psychology, Washington Univ., St. Louis, Mo.)

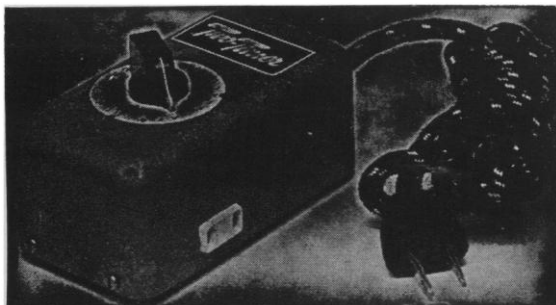
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1-6. Laurentian Hormone Conf., AAAS, Mont Tremblant, Quebec, Canada. (G. Pincus, LHC, 222 Maple Ave., Shrewsbury, Mass.)

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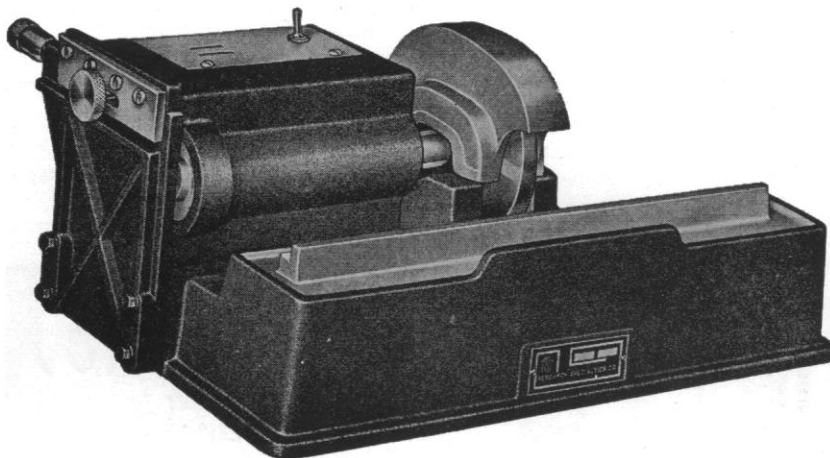
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1-7. Psychiatry, 2nd world cong., Zurich, Switzerland. (J. Wyrsch, Tottikon, Stans, Nidwald, Switzerland.)

1-16. Aeronautical Conf., 6th internatl., London and Folkestone, Kent, England. (S. P. Johnston, Inst. of Aeronautical Sciences, 2 E. 64 St., New York 21.)

2. Meteorological Soc., 20th annual, Los Angeles, Calif. (J. A. Russell, 3518 University Ave., Los Angeles 7.)

2-5. American Physiological Soc., Iowa City, Iowa. (M. O. Lee, 9650 Wisconsin Ave., Washington 14.)

2-5. Passivity, internatl. symp., Darmstadt, Germany. (German Bunsen Gesellschaft, Postfach 11, Duisburg, Germany.)

2-6. Operational Research, internatl.

conf., Oxford, England. (T. Page, 7100 Connecticut Ave., Chevy Chase, Md.)

2-16. Carbon-14 Dating, 3rd internatl. conf., in conjunction with INQUA, Madrid-Barcelona, Spain. (M. Rubin, U.S. Geological Survey, Washington 25.)

2-16. International Assoc. on Quarternary Research, 5th internatl. cong., Madrid-Barcelona, Spain. (M. L. Solé Sabarís, Instituto Geológico, Universidad, Barcelona.)

3-6. Calorimetry Conf., 12th, Wentworth-by-the-Sea, N.H. (H. A. Boorse, Pupin Physics Lab., Columbia Univ., New York, N.Y.)

3-6. Matrix Computations Conf., Detroit, Mich. (W. Givens, Dept. of Mathe-

matics, Wayne State Univ., Detroit 2.)

3-14. International Union of Geodesy and Geophysics, 11th general assembly, Toronto, Ont., Canada. (J. A. Jacobs, 49 St. George St., Toronto.)

4-5. Society of General Physiologists, annual, Woods Hole, Mass. (A. M. Shanes, National Institutes of Health, Bethesda 14, Md.)

4-6. Latency and Masking in Viral and Rickettsial Infections, symp., Madison, Wis. (A. S. Evans, Div. of Preventive Medicine, Univ. of Wisconsin Medical School, Madison 6.)

4-6. Magnetic Amplifiers, technical conf., Pittsburgh, Pa. (G. F. Pittman, Jr., Westinghouse Electric Corp., P. O. Box 10596, Pittsburgh 35.)

4-11. British Assoc. for the Advancement of Science, 119th annual, Dublin, Ireland. (Secretary, BAAS, Burlington House, London, W.1, England.)

5-7. American Political Science Assoc., natl., New York, N.Y. (E. M. Kirkpatrick, APSA, 1726 Massachusetts Ave., NW, Washington 6.)

6-12. Medicine and Social Hygiene, internatl. symp., Trieste. (M. Lovenati, via Cavana 18, Trieste.)

7-14. Odontostomatology, 12th internatl. cong., Rome, Italy. (G. Corradi, 16 via Boezio, Rome.)

7-14. Sociology, 17th internatl. cong., Beirut, Lebanon. (G. Gini, via Adige 39, Rome, Italy.)

8-12. International College of Surgeons, 22nd annual, Chicago, Ill. (K. A. Meyer, ICS, 1516 Lake Shore Dr., Chicago 10.)

8-13. American Assoc. of Clinical Chemists, annual, New York, N.Y. (M. M. Friedman, Lebanon Hospital, New York 57.)

8-13. American Chemical Soc., New York, N.Y. (A. H. Emery, ACS, 1155 16 St., NW, Washington 6.)

8-13. Nuclear Structure, internatl. conf. (IUPAP), Rehovoth, Israel. (A. de Shalit, Weizmann Inst. of Science, Rehovoth.)

8-15. International Cong. of Crop Protection, 4th, Hamburg, Germany. (Biologische Bundesanstalt für Land- und Forstwirtschaft, Messeweg 11-12, Braunschweig, Germany.)

9-11. Electron Microscope Soc. of America, annual, Cambridge, Mass. (D. M. Teague, Chrysler Corp., Box 1118, Detroit 31, Mich.)

9-11. Quantitative Methods of Mammalian Cell Culture, 2nd annual, Denver, Colo. (Office of Graduate and Postgraduate Education, Univ. of Colorado Medical Center, Denver 20.)

9-13. Illuminating Engineering Soc., annual, Atlanta, Ga. (A. D. Hincley, IES, 1860 Broadway, New York 23.)

9-13. Instrument Automation Conf., 12th annual, Cleveland, Ohio. (Instrument Soc. of America, 313 Sixth Ave., Pittsburgh, Pa.)

9-14. Clinical Chemistry, internatl. cong., New York, N.Y. (J. G. Reinhold, 711 Maloney Bldg., Univ. of Pennsylvania, Philadelphia 4.)

9-15. Macromolecular Chemistry, internatl. symp., IUPAC, Prague, Czechoslovakia. (Secretariat, ISMC, 5, Technická, Prague 6.)

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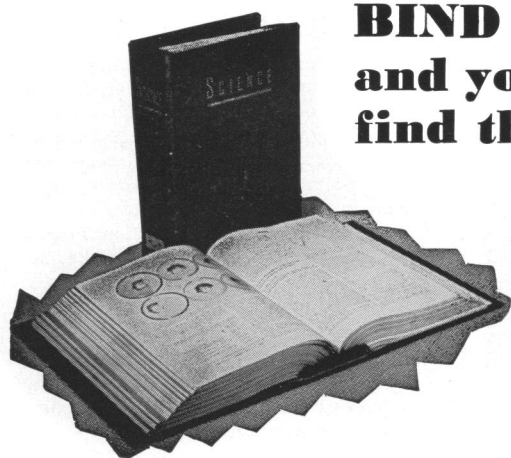


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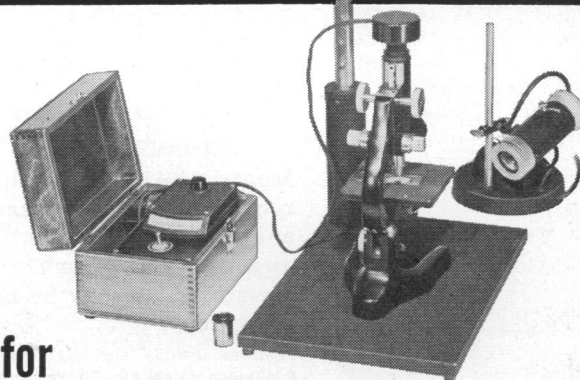
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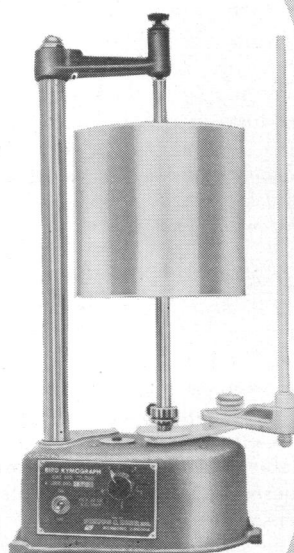
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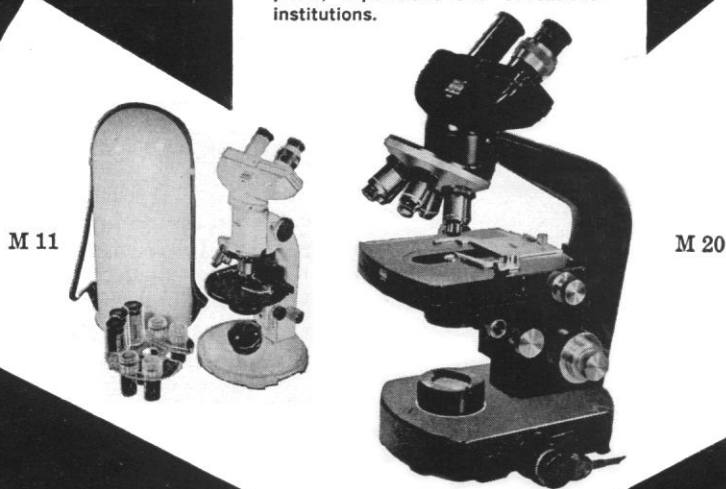
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LETTERS

The editors take no responsibility for the content of the letters published in this section. Anonymous letters will not be considered. Letters intended for publication should be typewritten double-spaced and submitted in duplicate. A letter writer should indicate clearly whether or not his letter is submitted for publication. For additional information, see *Science* 124, 249 (1956) and 125, 16 (4 Jan. 1957).

Russian Translation

Apparently the story of the \$250,000 that was lost because of a Russian paper on Boolean matrix algebra and relay contact networks "which appeared in an important, readily available Soviet journal" and "simply reposed on a library shelf waiting to be noticed" [R. E. O'Dette, *Science* 125, 580 (1957), quoting W. N. Locke, *Sci. American* 194, No. 1, 29 (1956)] is going to be one of the indestructible legends of our time. Perhaps there is no point in attempting to impede its triumphant progress. However, as E. H. Cutler has pointed out [*Sci. American* 194, No. 3, 6 (1956)], this is hardly a case where more translation would have helped significantly; the paper was abstracted in *Mathematical Reviews*, indeed by a staff member of the Bell Telephone Laboratories, and was indexed in the annual subject index. If people interested in the subject had been on their toes, they would have been watching the relevant section of *Mathematical Reviews*, where papers on similar topics have been, and still are, regularly abstracted.

Since I was the executive editor of *Mathematical Reviews* when the paper in question was published and had the responsibility for noticing it and seeing that it was reviewed, I cannot help but feel that if people are unable or unwilling to use the bibliographic aids that are already provided, there is little point in supplying them with even more in the form of translations and so on.

R. P. BOAS, JR.

Department of Mathematics,
Northwestern University,
Evanston, Illinois

My apologies to R. P. Boas, Jr., as well as to any other reader who may have reacted similarly. I was not pointing fingers. I cited the illustration, which still seems valid to me, to make three, and only three, points: (i) Soviet information is often important; (ii) it is often available; and (iii) it may be both simultaneously. It is doubtful that all United States scientists are equally aware of the possible significance of the Russian literature, although awareness seems to be increasing.

Locke stated that translation might not have helped in the Boolean algebra "legend." Whether or not "more trans-

lation would have helped significantly" is a good but unanswerable question. Possibly one might calculate the probability of faster absorption of Lunts' contribution as a function of increasing reader exposure to the paper or reviews of it in various formats and different media. For example, what would have happened if Gibbs' phase rule papers had first appeared in a more widely read journal? Or if Gosio's 1896 paper, which noted the antibiotic properties of a *Penicillium* strain, had appeared in *Science* instead of in an Italian sanitary engineering journal?

National Science Foundation support of translations projects stems from the belief that the odds in favor of starting another "Lunts legend" are lessened for papers that appear in the translated journals. Thus, while I join sincerely with Boas in wondering what one does next if scientists do not use existing bibliographic aids, I do not think that doing nothing is the answer. This is one reason for the translation program.

RALPH E. O'DETTE
National Science Foundation,
Washington, D.C.

Biological Clock

I consider LaMont C. Cole's "Biological clock in the unicorn" [*Science* 125, 874 (3 May 1957)] to be one of the great papers in science—in its absolute logical rigor and its straight-faced whimsy, in its demonstration of the meaning of a model and of a general theorem, and in its delicious deep sense-nonsense language. Congratulations and thanks for what is the best and most useful demonstration of really strict method I have yet seen and the most useful teaching tool with clients and students, especially with clients who think that they are scientists because they quantify.

PETER F. DRUCKER
138 North Mountain Avenue,
Montclair, New Jersey

Literature, Science, and Manpower

The article "Literature, science, and the manpower crisis," by Joseph Gallant [*Science* 125, 787 (26 Apr. 1957)], is one of the most disturbing pieces of rationalization I have seen in a long time. His thesis would seem to be that since almost everything written was considered "literature" (by some) in 1858, we may now readopt that position, with the curious reversal of tossing aside everything that is not science.

What Gallant apparently fails to understand, or does not wish to see, is the difference between "literature" (which may include even advertising) and a literary work. Perhaps he also fails to recognize the fact that already our college freshmen arrive knowing nothing of

Shakespeare, nothing of Milton—nothing, in fact, of any of the literary points of human reference that one might expect even a scientist to have at his disposal. It is obvious that high-school courses in English need drastic revision, but should this be in the direction of *Life on Other Worlds*? Is the function of an English course to provide propaganda for the sciences?

Why, I wonder, do teachers of science not make greater use of the kind of "literature" Gallant lists at such length? Perhaps they are too busy teaching science. But if they do make use of such books, let us keep in mind that *The Sea around Us* is likely to seem merely a "factual" document unless one goes at it with an awareness of those points of reference mentioned above.

CARL F. HARTMAN
Department of English, Washington
University, St. Louis, Missouri

In their reviews in today's *New York Times Book Section* (26 May), two contemporary poets wrote, unwittingly to be sure, replies to Carl F. Hartman's strictures. William Meredith, Hudson Review fellow in poetry, said: "Poetry cannot meet honestly with its subject except in the language of its time. No contemporary poet can feel deeply in a language whose problems and tensions are,

for him, synthetic. It is in the nature of art that to be an artist at all one must be a modern artist."

W. S. Merwin said: "We delight in the Cavalier poets without blaming them for not having written *Anthony and Cleopatra*."

In the house of literature there are many mansions, including, in our own time, *The Sea around Us*, which by its virtues as literature need not displace the mansion of Milton.

On the pedagogic side, our objective today is to endow students with a passion for reading and for things of the mind so that they may, among other intellectual pursuits, read Shakespeare and Milton with insight and not as mere ritual. It was the thesis of my article that this objective can be attained by a broader definition of literature, by no means restricted to science literature, but embracing works which offer fresh, individualized, and imaginative perspectives in any area of human interest, theology and history no less than science. However, science is particularly potent as a source of imaginative stimulus; it is peculiarly neglected as *reading*, and it is *needed* with particular urgency by the citizen of the 20th century.

JOSEPH GALLANT
Department of English, Theodore
Roosevelt High School, New York, N.Y.

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EQUIPMENT NEWS

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Science does not assume responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to Science, Room 740, 11 W. 42 St., New York 36, N.Y. Include the name(s) of the manufacturer(s) and the department number(s).

■ **ULTRASONIC CLEANER** is designed for cleaning watches and small precision parts. Washing, rinsing and hot-air drying are provided in a single unit. Ultrasonic excitation is generated by an oscillator unit that furnishes about 35 w at 1 Mcy/sec. Shielding and filtering prevent radio interference. Transducer cans, 1200 cm³ in volume, are of stainless steel and are equipped with barium-titanate elements. Switching between transducer cans is provided. (McKenna Laboratories, Dept. S366)

■ **TRAINING REACTOR** designed to meet the needs of nuclear engineering curricula in colleges and universities is described in a 16-page brochure. The information given includes specifications, a cutaway view of the reactor, and a typical layout for arrangement of facilities. (American-Standard Corp., Dept. S369)

■ **OSCILLOSCOPE** of modular design is comprised of interchangeable amplifiers, sweep generators, power supplies, and basic cathode-ray tube. Features of the instrument are direct-reading amplitude and time calibrations, sweep expansion, and driven and recurrent sweeps. Modules may be purchased individually or preassembled into high- or low-frequency units. (Advanced Electronics Manufacturing Corp., Dept. S371)

■ **DROP COUNTER** can be set to select samples of up to 400 drops per sample. The counter operates by using the lens action of the drop to diminish illumination falling on a photocell. Very low illumination intensity is used in order to avoid heating effects on slow-forming drops. An optional multiplier control increases the capacity of the instrument to 800 drops. (National Instrument Laboratories, Inc., Dept. S378)

■ **DIGITAL VOLTMETER** provides an accuracy of ± 0.05 percent, according to the manufacturer. Measurements are made automatically and are presented with 1-in.-high lighted numerals arranged in line. Linearity is better than 0.01 percent from 1 mv to 1000 v, direct current. The decimal point is automatically positioned for the maximum number of significant figures under all conditions. Average balance time is 1 sec. (Electro Instruments Inc., Dept. S379)

■ **DRIVE UNIT** for pharmaceutical devices is available with 14 attachments, including a three-roller mill, a tablet coater, and others. The apparatus is designed for laboratory use. (Chemical and Pharmaceutical Industry Co., Inc., Dept. S388)

■ **RELATIVE HUMIDITY CHAMBER** provides a two-point humidity cycling program. A timer transfers control alternately between a high-point and a low-point controller. The work chamber is an inverted Pyrex jar 12 in. high and 18 in. in diameter. Dry-bulb temperature is variable from room temperature to 170°F, and relative humidity is controlled from 20 to 99 percent with accuracy of ± 1 percent. (Blue M Electric Company, Dept. S382)

■ **BLOCKING OSCILLATOR**, encapsulated within a 3/4-in. cube, produces a pulse of 3- μ sec duration with a rise time of 0.06 μ sec. Amplitude is from +6 v peak to -3 v peak. Repetition rates of 25 kcy/sec, 1 kcy/sec, or variable from 400 cy/sec to 24 kcy/sec are offered. Input to the oscillator is 6-v direct current. (Allen B. DuMont Laboratories, Inc., Dept. S390)

■ **THERMOCOUPLE WELDER** is a miniature model for use in resistance-welding thermocouple junctions and leads and for securing thermocouples, strain gages, thermistors, and other devices to large bodies. A built-in power supply operates on 115-v alternating current. (Ewald Instruments, Dept. S393)

■ **REFLECTANCE UNIT** for the DK-2 recording spectrophotometer houses an integrating sphere and necessary optical elements and detectors. Interchangeable source and detector compartments permit monochromatic illumination of the sample or direct illumination of the sphere and sample. The device measures total, diffuse, and specular reflectance, transmittance of clear or turbid samples, fluorescent samples, and source emission. (Beckman Instruments, Inc., Dept. S384)

■ **STANDARD BLOOD SERUM** serves as a control to check the accuracy of tests and techniques in blood chemistry. Samples are prepared by freeze-drying and are carefully analyzed by two laboratories; the reported values are the average of eight determinations. (Clinton Laboratories, Dept. S394)

■ **CAMERA**, designed primarily for meteorological use, covers a 180-deg angle of view. The entire celestial dome and 360 deg of horizon are included in the image. The camera uses No. 120 roll film. Negative size is 2 1/4 by 2 1/4 in. Focal length is 16 mm. Shutter speeds range up to 1/200 sec. (Nikon Inc., Dept. S387)

■ **HIGH-SPEED ANGLE CENTRIFUGE** incorporates a self-aligning device that causes the rotor to rotate about its actual center of gravity, thus compensating for machining allowances and imperfect balance. All models have been designed for continuous operation and may be used in refrigerators. Two styles of interchangeable rotors are provided, one holding eight tubes and the other 16 tubes. Operating speed is 14,000 rev/min. (Custom Scientific Instruments, Inc., Dept. S386)

■ **DECADE COUNTER strip** uses beam-switching tube to provide 1-μsec resolution. A single fast binary trigger is used to transfer the electron beam through each of the switching tube's ten states. Read-out is provided by panel neon lamps. A negative output pulse is provided to drive the next counting stage. Maximum continuous counting rate is greater than 450 kcy/sec. (Nuclear Chicago Corp., Dept. S398)

■ **CARDIAC SPECTROGRAPH** for the audio and subaudio range is especially designed for making analyses and permanent audible and visible records of heart sounds. The recording medium is a flexible magnetic disk, 12 in. in diameter and approximately 3 mils thick. The disk is removable for filing. Frequency range of the spectrograph is 10 to 1500 cy/sec, and the filter bandwidth is 23 cy/sec. Three displays are provided. One shows frequency versus energy versus time and is linear with respect to frequency and time; the second shows intensity versus frequency at five consecutive times; and the third shows average amplitude versus time. The displays are recorded on 5⅝- by 12¾-in. facsimile paper. (Kay Electric Co., Dept. C389)

■ **TEMPERATURE CONTROL** is said to provide accuracy of $\pm 0.001^\circ\text{C}$. Three models are offered with ranges of -100° to $+100^\circ\text{C}$, -3° to $+225^\circ\text{C}$, and 200° to 500°C . A stainless-steel sheathed resistance thermometer is the temperature-sensing element. The electronic bridge circuit into which it feeds operates a mercury relay capable of handling power up to 1700 w. Operation is on 115-v, 60 cy/sec power. (Bayley Instrument Co., Dept. S402)

■ **OSCILLOGRAPH PEN MOTOR** has constant response from 0 to 60 cy/sec, falling off 12 db per octave from 60 to 200 cy/sec. Sensitivity is 20 ma r.m.s. full scale. Rectilinear motion of the pen tip is accomplished by a linkage assembly. Acoustic damping eliminates resonant peaks, overshoot, and ringing. The motor is designed for use in multichannel systems. (Massa Laboratories, Inc., Dept. S399)

JOSHUA STERN

National Bureau of Standards

21 JUNE 1957



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Director, diagnostic and research tuberculosis laboratory, central Florida, physician or non-physician microbiologist or clinical chemist. Part-time employment will be considered. Write Dr. Albert V. Hardy, Director, Bureau of Laboratories, State Board of Health, P.O. Box 210, Jacksonville, Florida. uc

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The field of interest of the Saskatchewan Research Council includes both pure and applied science but is mainly directed to matters affecting the economy of the Province. Within this field the work is widely diversified. The Council's laboratory building is now under construction on the grounds of the University of Saskatchewan and is expected to be ready for occupancy in April 1958. Applicants should be prepared to join the Council before that time in order to participate in planning the initial program of research.

Inquiries are to be addressed to Dr. T. E. Warren, Director, Saskatchewan Research Council, University of Saskatchewan, Saskatoon, Saskatchewan. 6/14, 21

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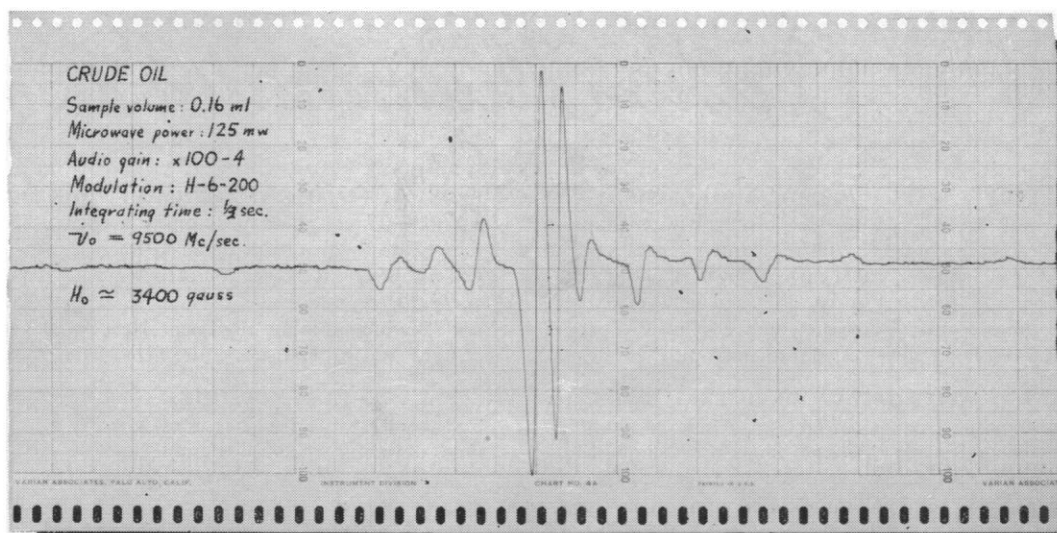
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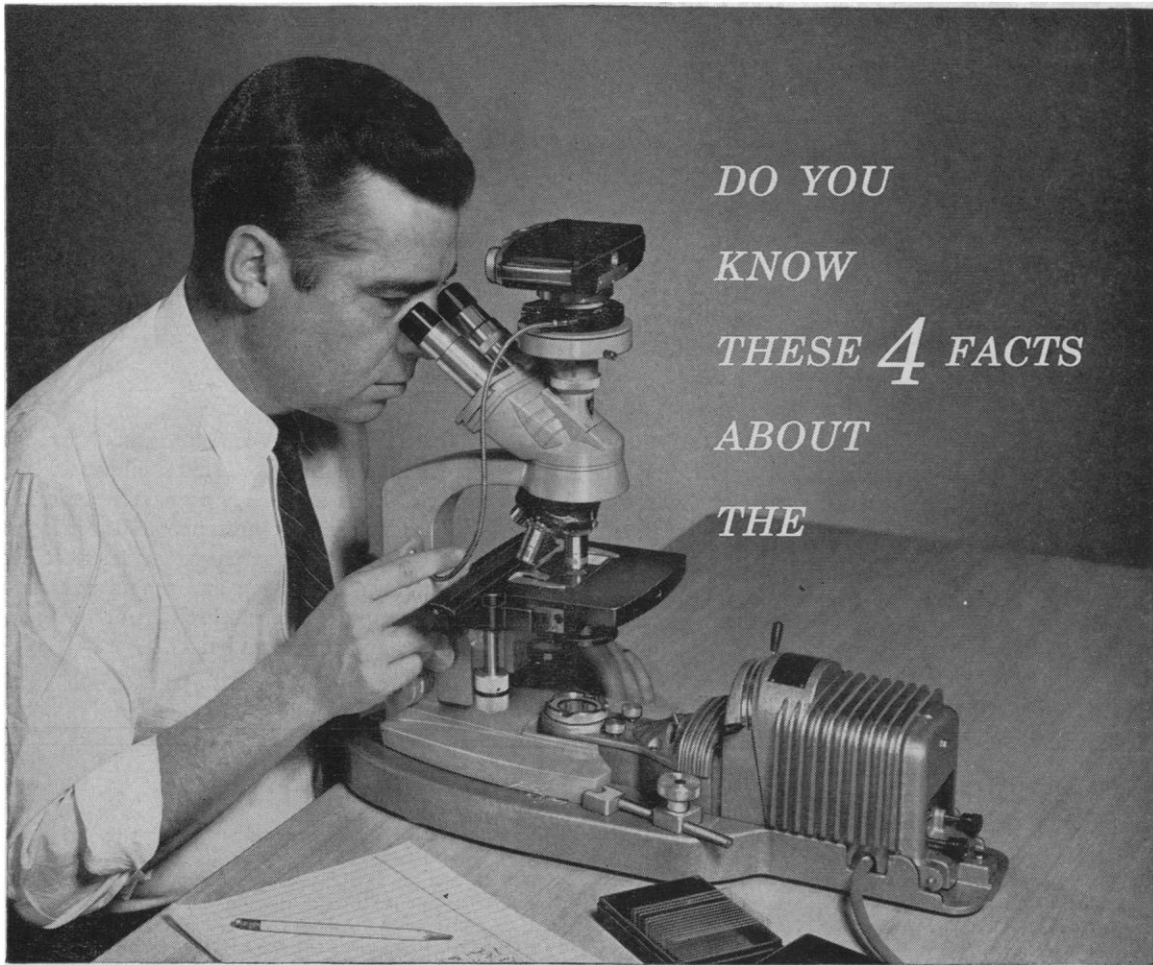
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