12–13. Colorado–Wyoming Acad. of Science, annual, Fort Collins, Colo. (O. W. Olsen, Colorado A.&M. College, Fort Collins.)

12–13. Eastern Psychological Assoc., annual, New York, N.Y. (G. G. Lane, Dept. of Psychology, Univ. of Delaware, Newark.)

12–13. New Orleans Acad. of Sciences, New Orleans, La. (A. Welden, Dept. of Biology, Newcomb College, New Orleans.)

12–14. American Assoc. for Cancer Research, Chicago, Ill. (H. J. Creech, Inst. for Cancer Research, Fox Chase, Philadelphia 11, Pa.)

12–14. American Assoc. of Physical Anthropologists, annual, Ann Arbor, Mich. (J. H. Spuhler, Dept. of Human Genetics, Univ. of Michigan Medical School, Ann Arbor.)

12–14. American Soc. of Human Genetics, annual, Ann Arbor, Mich. (E. J. Gardner, Dept. of Zoology, Utah State College, Logan.)

12–14. National Speleological Soc., Natural Bridge, Va. (Mrs. M. McKenzie, 1407 Hickory Ct., Broyhill Park, Falls Church, Va.)

13. Society for the Scientific Study of Religion, spring, New York, N.Y. (W. C. Clark, Hartford School of Religious Education, Hartford 5, Conn.)

13. South Carolina Academy of Science, annual, Columbia (Miss M. Hess, Box 114, Winthrop College, Rock Hill, S.C.)

14–16. Telemetering Symposium, natl., Philadelphia, Pa. (A. S. Westneat, Jr., Applied Science Corp., Box 44, Princeton, N.J.)

14–20. American Physiological Soc., Chicago, Ill. (M. O. Lee, APS, 9650 Wisconsin Ave., NW, Washington 14.)

15–17. American Soc. of Lubrication Engineers, annual, Detroit, Mich. (W. P. Youngclaus, Jr., ASLE, 84 E. Randolph St., Chicago 1, Ill.)

15–17. Molecular Mechanism of Rate Processes in Solids, Faraday Soc. discussion, Amsterdam, Netherlands. (Faraday Soc., 6 Gray's Inn Sq., London, W.C.1.)

15–17. Systems for Information Retrieval, symp., Cleveland, Ohio. (J. H. Shera, School of Library Science, Western Reserve Univ., Cleveland 6.)

15–18. American Personnel and Guidance Assoc. and constituent divisions: American College Personnel Assoc., American School Counselor Assoc., National Assoc. of Guidance Supervisors and Counselor Trainers, National Vocational Guidance Assoc., Student Personnel Assoc. for Teacher Education; Detroit, Mich. (A. A. Hitchcock, APGA, 1534 O St., NW, Washington 5.)

15–18. Host-Specificity and Parallel Evolution among Parasitic Insects and Worms, symp., Neuchatel, Switzerland. (J. G. Baer, C.P. 2, Neuchatel 7.)

15–18. International Inst. of Differing Civilizations, 30th session, Lisbon, Portugal. (11, Blvd. de Waterloo, Brussels, Belgium.)

15–19. American Assoc. of Immunologists, annual, Chicago, Ill. (F. S. Cheever, Graduate School of Public Health, Univ. of Pittsburgh, Pittsburgh 13, Pa.)

15–19. American Soc. for Experimental Pathology, annual, Chicago, Ill. (C. C. Erickson, Inst. of Pathology, Univ. of Tennessee, 858 Madison Ave., Memphis.)

15–19. American Soc. for Pharmacology and Experimental Therapeutics, Chicago, Ill. (H. Hodge, Dept. of Pharmacology, Univ. of Rochester, Rochester, N.Y.)

15–19. Federation of American Societies for Experimental Biology, annual, Chicago, Ill. (M. O. Lee, FASEB, 9650 Wisconsin Ave., Washington 14.)

15–19. High Energy Nuclear Physics Conf., 7th annual, Rochester, N.Y. (R., Marshak, Univ. of Rochester, Rochester.)

15–20. American Inst. of Nutrition, annual, Chicago, Ill. (R. W. Engel, Dept. of Biochemistry and Nutrition, Virginia Polytechnic Inst., Blacksburg 13, Va.)

16–18. Nuclear Tests for Nondestructive Testing Applications, symp., Chicago, Ill. (American Soc. for Testing Materials, 1916 Race St., Philadelphia 3, Pa.)

17–19. American Assoc. of Anatomists, annual, Baltimore, Md. (L. B. Flexner, School of Medicine, Univ. of Pennsylvania, Philadelphia 4.)

18–20. Assoc. of Southeastern Biologists, annual, Athens, Ga. (J. C. Dickinson, Jr., Univ. of Florida, Gainesville.)

18–20. Ohio Acad. of Science, annual, Bowling Green. (R. W. Dexter, Dept. of Biology, Kent State Univ., Kent, Ohio.)

18–20. Southern Soc. for Philosophy and Psychology, annual, Gatlinburg, Tenn. (W. B. Webb, U.S. Navy School of Aviation Medicine, Pensacola, Fla.)

18–20. Venereal Disease Postgrad. Conf., 26th, Memphis, Tenn. (H. Packer,

Dept. of Preventive Medicine, Univ. of Tennessee College of Medicine, Memphis 3.)

19–20. Arkansas Acad. of Science, annual, Fayetteville. (L. F. Bailey, University of Arkansas, Fayetteville.)

19–20. Seismological Soc. of America, annual, Los Angeles, Calif. (P. Byerly, Bacon Hall, Univ. of California, Berkeley 4.)

22–24. National Acad. of Sciences, annual, Washington, D.C. (H. L. Dryden, NAS, 2101 Constitution Ave., NW, Washington 25.)

23–25. Chemistry and Biology of Mucopolysaccharides, Ciba Foundation Symp. (by invitation only), London, England. (G. E. W. Wolstenholme, 41 Portland Pl., London, W.1.)

23–25. Solid State Devices in Electric Circuits, symp., New York, N.Y. (J. Griesmann, Microwave Research Inst., 55 Johnson St., Brooklyn 1, N.Y.)

23–26. American Industrial Hygiene Assoc., annual, St. Louis, Mo. (G. D. Clayton, AIHA, 14125 Prevost, Detroit 27, Mich.)

23–27. Separation of Isotopes, colloquium of IUPAP, Amsterdam, Netherlands. (J. Kistemaker, Laboratorium voor Massaspectrografie, Hoogfe Kadijk 202, Amsterdam C.)

24–25. Industrial Research Conf., Chicago, Ill. (C. E. Barthel, Armour Research Foundation, Illinois Inst. of Technology, 10 W. 35 St., Chicago 16.)

24–25. Recent Advances in the Study of Venereal Disease, 8th annual symp., Washington, D.C. (W. J. Brown, Program Committee Chairman, Communicable Disease Center, Atlanta, Ga.)

24–26. Purity Control by Thermal Analysis, IUPAC, Amsterdam, Netherlands. (W. M. Smit, Central Inst. for Physico-Chemical Constants, Biltstraat 172, Utrecht, Netherlands.)

24–26. Sanitary Engineering Conf. on Solids Handling and Anaerobic Digestion, New York, N.Y. (W. W. Eckenfelder, Jr., Civil Engineering Dept., Manhattan College, New York 71.)

24–27. Plant Quality, 2nd internatl. colloquium, Paris, France. (L. Genevois, Faculté des Sciences, Université de Bordeaux, 20, Cours Pasteur, Bordeaux, France.)

25–26. Midwest Benthological Soc., annual, Urbana, Ill. (A. Lopinot, 205 W. Osie, Gillespie, Ill.)

25–27. American Physical Soc., Washington, D.C. (K. K. Darrow, APS, Columbia Univ., New York 27.)

25–29. Pan American Cancer Cytology Cong., Miami, Fla. (J. E. Ayre, New York Univ., New York, N.Y.)

26–27. Alabama Acad. of Science, annual, Jacksonville. (H. A. McCullough, Dept. of Biology, Howard College, Birmingham, Ala.)

26–27. American Assoc. of University Professors, annual, New York, N.Y. (R. F. Fuchs, AAUP, 1785 Massachusetts Ave., NW, Washington 6.)

26–27. Iowa Acad. of Science, annual, Cedar Falls. (J. L. Laffoon, Dept. of Zoology and Entomology, Iowa State College, Ames.)

26–27. Kentucky Acad. of Science, Mammoth Cave. (G. Levey, Berea College. Berea, Ky.)

26–27. Mississippi Acad. of Sciences, annual, Columbus. (C. Q. Sheely, State College, Miss.)

26–27. Montana Academy of Sciences, 17th annual, Billings. (L. H. Harvey, Montana State Univ., Missoula.)

26–27. West Virginia Acad. of Science, annual, Keyser. (M. Ward, Glenville State College, Glenville, W. Va.)

28. American Soc. of Hospital Pharmacists, New York, N.Y. (Mrs. G. N. Francke, 1812 Norway Rd., Ann Arbor, Mich.)

28–30. American Assoc. of Colleges of Pharmacy, annual, New York, N.Y. (G. L. Webster, Univ. of Illinois College of Pharmacy, 808 S. Wood St., Chicago 12.)

28–2. Southwestern and Rocky Mountain Division–AAAS, annual, Tucson, Ariz. (F. E. E. Germann, 1800 Sunset Blvd., Boulder, Colo.)

28–3. American Pharmaceutical Assoc., annual, New York, N.Y. (R. P. Fischelis, APA, 2215 Constitution Ave., NW, Washington 7.)

28–3. Soc. of American Bacteriologists, annual, Detroit, Mich. (J. H. Bailey, Sterling-Winthrop Research Inst., Rensselaer, N.Y.)

29–30. National Assoc. of Boards of Pharmacy, annual, New York, N.Y. (P. H. Costello, NABP, 77 W. Washington St., Chicago 2, Ill.)

29–1. American Assoc. of Spectrographers, 8th annual, Chicago, Ill. (T. H. Zink, H. Cohn & Sons, 4528 W. Division St., Chicago 51.)

29–1. American Geophysical Union, 38th annual, Washington, D.C. (W. E. Smith, AGU, 1515 Massachusetts Ave., NW, Washington 5.)

29–1. American Oil Chemists' Soc., 48th annual, New Orleans, La. (R. T. O'Connor, Southern Regional Research Laboratory, New Orleans.)

29–2. International Acad. of Proctology, 9th annual, New York, N.Y. (A. J. Cantor, IAP, 147–41 Sanford Ave., Flushing 55, L.I.)

29–4. Irrigation and Drainage, 3rd internatl. cong., San Francisco, Calif. (W. E. Blomgren, 260 Leetsdale Dr., Denver 22, Colo.)

30–1. Metal Powder Assoc., 13th annual, Chicago, Ill. (MPA, 130 W. 42 St., New York 36.)

May

1–3. Electronic Components Conf., Chicago, Ill. (R. M. Soria, 1830 S. 54 Ave., Chicago 50.)

1–3. Society for Experimental Stress Analysis, spring, Boston, Mass. (W. M. Murray, SESA, P.O. Box 168, Cambridge 39, Mass.)

2–4. American Philosophical Assoc., annual, Chicago, Ill. (W. H. Hay, Bascom Hall, Univ. of Wisconsin, Madison 6.)

2–4. Illinois State Acad. of Science, annual, Normal. (R. A. Evers, Illinois Natural History Survey, Urbana.)

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 (10 Aug. 1956).

Deep-Sea Diving Record

I read with interest the item entitled "Deep-sea diving record" [*Science* **124**, 1141 (7 Dec. 1956)]. The dive to 600 feet is a notable achievement. May I, however, correct the statement that "The use of this mixture [oxygen and helium] is new"? The early history of the use of this mixture has been given in a U.S. Bureau of Mines Circular [No. 2670 (Feb. 1925)]; in *Nature* [**121**, 577 (1928)] by Hildebrand, Sayers, and Yant; and in *Science* [**65**, 324 (1927)] by Hildebrand.

The submarine *Squalus* was salvaged by aid of this mixture in 1939 [Behnke and Willman, *U.S. Naval Med. Bull.* **37**, No. 4 (1939)]. Max E. Nohl dived to 420 feet in Lake Michigan on 1 Dec. 1937. The preliminary work was described by Edgar M. End and M. E. Nohl [*Marquette Med. Rev.* No. 2, 53, (1938)]. There is enough credit to distribute among all who have contributed to the present status of deep diving with helium and oxygen.

JOEL H. HILDEBRAND
Department of Chemistry and Chemical Engineering, University of California, Berkeley

Gross National Product

I wish to call attention to what appear to be seriously misleading figures in Glenn T. Seaborg's article, "The future through science" [*Science* **124**, 1275 (28 Dec. 1956)].

At the end of the second paragraph, which is concerned with the *physical* well-being and growth of the United States, figures are given which purport to represent the growth of our "gross national product of goods and services" and show a more than sixfold increase from 1933 to 1955 and a more than fourfold increase from 1939 to 1955. The official Government figures show only a threefold increase in the "gross national product of goods and services" between 1933 and 1955 and only a doubling from 1939 to 1955. The actual figures for Gross National Product in constant 1947 dollars are as follows: 1933, $103.7 billion; 1939, $157.5 billion; 1955, $318.8 billion [*National Income—1954 Edition* (U.S. Dept. of Commerce), p. 216; and *Survey of Current Business* (U.S. Dept. of Commerce, Feb. 1956), p. 7].

I presume that Seaborg used the raw figures for gross national product without any adjustment for the big rise in prices which has taken place, particularly since 1939. Because of the price difference, the rise in the *money* value of gross national product bears little relationship to increases in the actual production of goods and services. Even if Seaborg had made it clear that the figures he was giving were *money* figures, they would have been misleading in the context of his discussion of physical well-being.

There is also a question of the propriety of using 1933, the bottom of the depression, as a base for measuring what purports to be a pattern of growth.

GARDINER C. MEANS
Washington, D.C.

Gardiner C. Means is quite right in pointing out that figures for the gross national product must be used with caution, but his corrected figures lend impressive support to the only point I was trying to make in my introductory paragraphs—namely, that we are a very wealthy and fortunate group of people. I was making no attempt to discuss or to minimize the ups and downs of past economic developments.

The main thesis of my address, taken as a whole, was to show that very serious economic and political reversals may affect us in the future unless we encourage the development of trained brainpower in all fields, including economic analysis.

GLENN T. SEABORG
University of California, Berkeley

About Meriones

Some recent articles [*Science* **123**, 790 (1956); **124**, 323 (1956)] dealt with the use of *Meriones* as laboratory animals. May I add some more information on this subject?

Meriones shawi is a common field rodent in Tunisia, largely used as a routine small laboratory animal. It has been bred in our institute at least since 1932 [A. Wassilieff, *Arch. Inst. Pasteur Tunis* **21**, 298 (1932)]. When laboratory-bred, it is very easy to handle and never bites. An important feature is its great natural resistance to spontaneous bacterial or viral diseases. This rodent does not need any special care other than a room temperature 18°C or above and some cod liver oil weekly in the food.

Meriones shawi is strictly a monogamous animal, and it is a rule that the same male must always be put together with the same female. When a female is surely pregnant, she must be kept alone until the young are about 1 month old. Females are mated for the first time when they are about 10 months old. They give birth to two to three litters a year, each of two to six young. They are used for reproduction till they are about 2 years old.

One may find articles describing work in which meriones have been used for viral, rickettsial, leptospiral, and other studies in *Annales de l'Institut Pasteur de Paris,* in *Archives de l'Institut Pasteur de Tunis,* and in other French reviews. Without any great risk of error, I can assume that probably all the meriones actually found in European institutes have come from our own breed.

Regarding gerbils, many attempts to breed *Dipodillus campestris* were unsuccessful. But Vermeil [*Ann. Inst. Pasteur Paris* **88**, 137 (1955)] has been able to establish in our institute a colony of *Gerbillus hirtipes* since 1951. This rodent has proved to be invaluable for studies on viruses, leptospira, leishmania, pathogenic molds, and on some human and animal endoparasites.

GÉRARD RENOUX
Institut Pasteur de Tunis,
Tunis, Tunisia

EQUIPMENT NEWS

All inquiries concerning items listed here should be addressed to Science, *Room 604, 11 W. 42 St., New York 36, N.Y. Include the name(s) of the manufacturer(s) and the department number(s).*

■ COLOR-DIFFERENCE METER compares colors in terms of a three-part number, each part of which is obtained by automatic consideration of one of the factors whiteness versus blackness, redness versus greenness, and yellowness versus blueness. The three parts of the number are produced by three null-balance circuits, each of which compares the light reflected from the sample with that reflected from a standard. (Gardner Laboratory, Inc., Dept. S149)

■ PULSE GENERATOR for checking and calibrating nuclear instruments such as linear amplifiers and radiation spectrometers has a drift rate of less than 0.005 percent per hour. The output is variable from 1 μv to 10 v; the rise time of the pulse is 7 mμsec; the pulse decays exponentially in 300 μsec; and the repetition rate is fixed at 60 pulses per second. The new instrument is portable. (Franklin Electronics, Inc., Dept. S150)

■ SONIC GAS ANALYZER exploits differences in sonic velocity to monitor gas mixtures and to detect minute amounts of contaminating gases. The instrument contains a tube in which the velocity of sound is measured. The gas is fed into the tube at its center and flows out at both ends. Sound waves are generated at one end and received at the other, and the phase of the received signal is compared with that of the generated signal to obtain the change in the velocity of sound propagation. An oscillation frequency of approximately 150 kcy/sec is used to give high sensitivity. (National Instrument Laboratories, Inc., Dept. S151)

■ WATER ANALYSIS, a 100-page technical bulletin, contains sections on the treatment of various types of water, as well as tables of analytic data, conversion factors, turbidimetric and color standards, and a special section on the preparation of reagents, indicators, and standard solutions. (Allied Chemical and Dye Corp., Dept. S152)

■ VACUUM-HEATING STAGE for use with inverted metallurgical microscopes is designed for studies of metals at temperatures up to 1100°C. An ×40 objective with a working distance of 5.8 mm is available; observations and photographs may be made at magnifications as high as 800. (United Scientific Co., Dept. S154)

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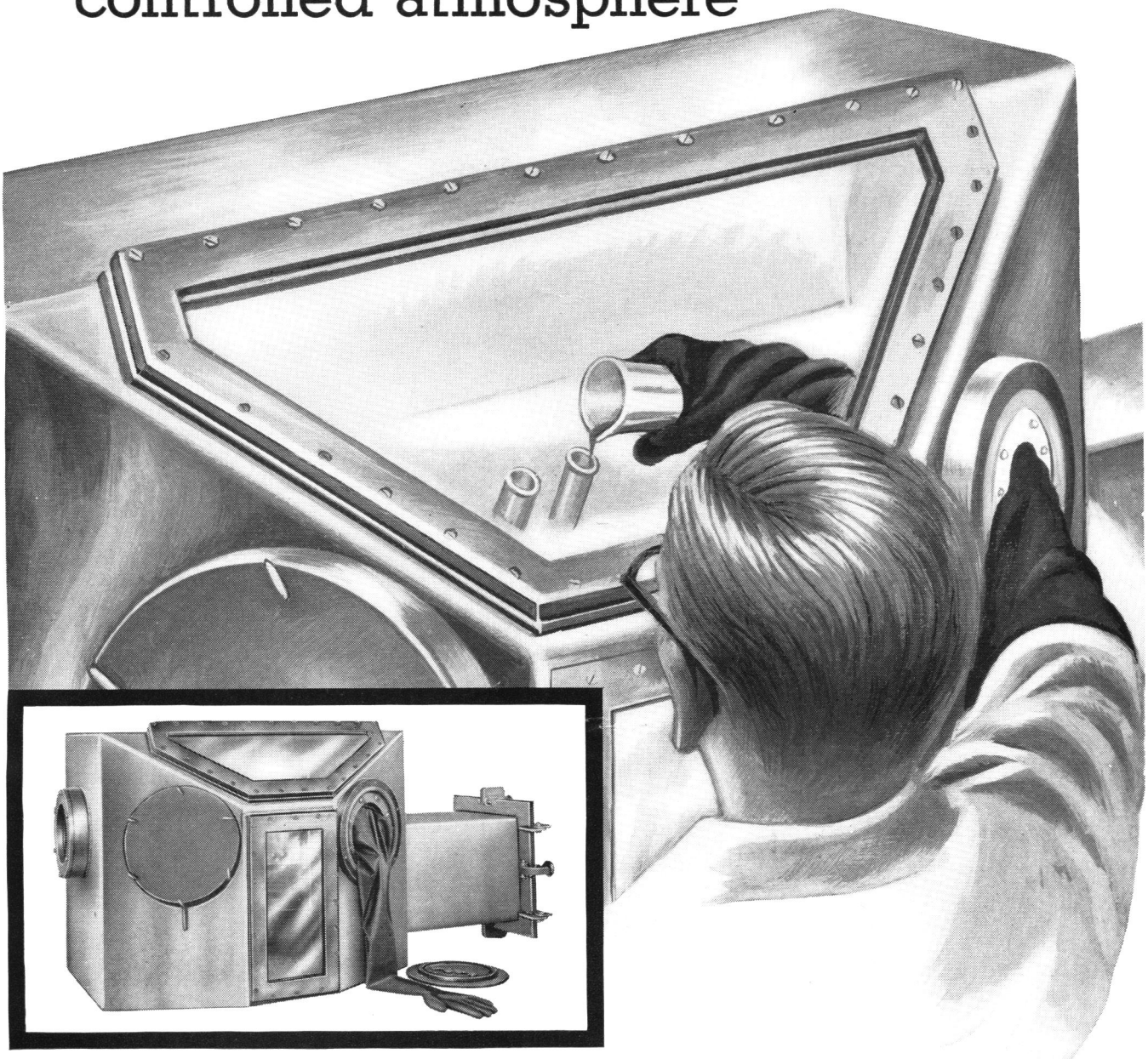

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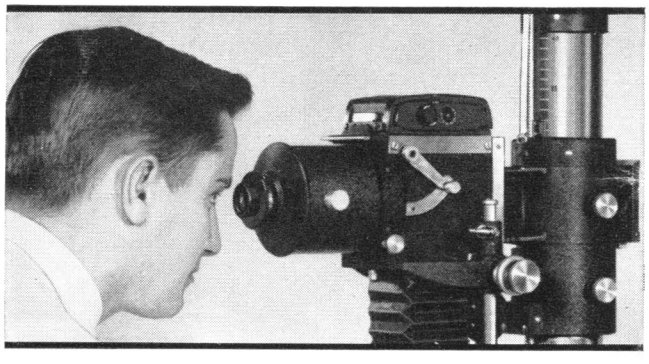

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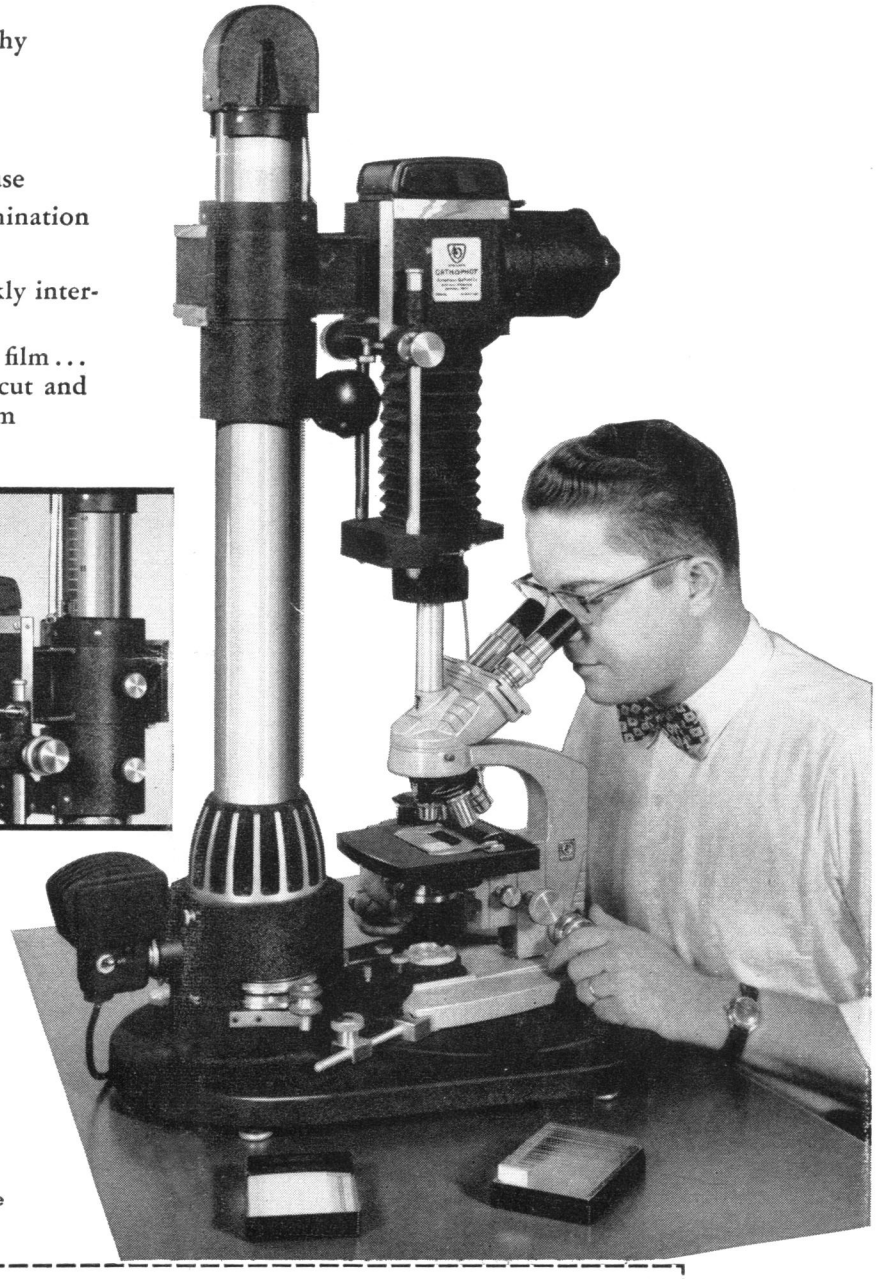

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