

## APPENDIX G

### Publications Resulting From National Science Foundation Grants Fiscal Year 1957

This bibliography of some 850 items lists all grantee papers for which the Foundation received publication information during fiscal year 1957. Notification of publication usually was in the form of a reprint or copy of the grantee's paper or book. Approximately 190 grantee institutions are represented. Because of time-lags between completion of research and publication of results, much of the experimentation covered by these papers was carried on prior to fiscal year 1957, while

the results of a great deal of fiscal year 1957 research will be reported in papers appearing in later lists.

The arrangement of entries is designed to facilitate reference use of the compilation. Items are grouped by National Science Foundation divisions or offices, by programs within each division, and alphabetically by grantee institution within each program. The table of contents lists the divisions and subject programs under which research grants are made.

#### *Division of Biological and Medical Sciences*

##### **Anthropological and Related Sciences**

HARVARD UNIVERSITY, G. R. WILLEY  
Willey, Gordon R. The Structure of Ancient Maya Society: Evidence from the Southern Lowlands. *American Anthropologist*, 58: 777-782 (Oct. 1956).

UNIVERSITY OF OREGON, L. S. CRESSMAN  
Miller, Loye. Bird Remains from an Oregon Indian Midden. *Condor*, 59: 59-63 (Jan. Feb. 1957).

WENNER-GREN FOUNDATION FOR ANTHROPOLOGICAL RESEARCH, INC., W. L. THOMAS, JR.  
Thomas, William, Jr., Ed. Man's Role in Changing the Face of the Earth. 1,193 pp. Chicago, Ill., University of Chicago Press, 1956.

##### **Developmental Biology**

BROWN UNIVERSITY, P. B. WEISZ  
Weisz, Paul B. Chemical Inhibition of Regeneration in *Stentor Coeruleus*. *Journal of Cellular and Comparative Physiology*, 46: 517-527 (Dec. 1955).

Weisz, Paul B. Experiments on the Initiation of Division in *Stentor Coeruleus*. *Journal of Experimental Zoology*, 131: 137-162 (Feb. 1956).

UNIVERSITY OF CALIFORNIA, BERKELEY, R. Y. STANIER  
Griffiths, Mary, W. R. Sistrom, Germaine Cohen-Bazire, R. Y. Stanier, and M. Calvin. Function of Carotenoids in Photosynthesis. *Nature*, 176: 1211-1215 (Dec. 1955).

Griffiths, Mary, and R. Y. Stanier. Some Mutational Changes in the Photosynthetic Pigment System of *Rhodospseudomonas spheroides*. *Journal of General Microbiology*, 14: 698-715 (June 1956).

Sistrom, W. R., Mary Griffiths, and R. Y. Stanier. A Note on the Porphyrins Excreted by the Blue-Green Mutant of *Rhodospseudomonas Spheroides*. *Journal of Cellular and Comparative Physiology*, 48: 459-472 (Dec. 1956).

Sistrom, W. R., Mary Griffiths, and R. Y. Stanier. The Biology of a Photosynthetic Bacterium Which

*Division of Biological and Medical Sciences—Continued***Developmental Biology—Continued**

Lacks Colored Carotenoids. *Journal of Cellular and Comparative Physiology*, 48: 473-515 (Dec. 1956).

UNIVERSITY OF CHICAGO, S. L. WASHBURN

Mednick, Lois W., and S. L. Washburn. The Role of the Sutures in the Growth of the Braincase of the Infant Pig. *American Journal of Physical Anthropology*, 14: 175-191 (June 1956).

GRINNELL COLLEGE, G. MENDOZA

Mendoza, Guillermo. Adaptations During Gestation in the Viviparous Cyprinodont Teleost, *Hubbsina Turneri*. *Journal of Morphology*, 99: 73-95 (July 1956).

MARQUETTE UNIVERSITY, J. W. SAUNDERS, Jr.

Saunders, J. W., L. C. Saunders, and M. T. Gasseling. The Morphogenetic Role of Cell Deaths in the Origin of the External Contours of the Limbs in the Chick. *Anatomical Record*, 127: 360-361 (1957).

UNIVERSITY OF MICHIGAN, N. E. KEMP

Kemp, Norman E. Differentiation of the Cortical Cytoplasm and Inclusions in Oocytes of the Frog. *Journal of Biophysical and Biochemical Cytology*, 2: 187-190+ (July 1956).

Kemp, Norman E. Electron Microscopy of Growing Oocytes of *Rana pipiens*. *Journal of Biophysical and Biochemical Cytology*, 2: 281-292+ (May 1956).

Kemp, Norman E. Localization of Glycine-2-C<sup>14</sup> Injected into Adult Female Frogs. *Journal of Experimental Zoology*, 133: 227-239 (Nov. 1956).

UNIVERSITY OF PENNSYLVANIA, C. E. WILDE, Jr.

Wilde, Charles E., Jr. The Urodele Neuroepithelium. III. The Presen-

tation of Phenylalanine to the Neural Crest by Archenteron Roof Mesoderm. *Journal of Experimental Zoology*, 133: 409-440 (Dec. 1956).

RICE INSTITUTE, R. V. TALMAGE, AND A. C. ENDERS

Buchanan, G. D., A. C. Enders, and R. V. Talmage. Implantation in Armadillos Ovariectomized During the Period of Delayed Implantation. *Journal of Endocrinology*, 14: 121-128 (1956).

ST. AMBROSE COLLEGE, W. F. LYNCH

Lynch, William F. Experimental Modification of the Rate of Metamorphosis of *Bugula* Larvae. *Journal of Experimental Zoology*, 133: 589-612 (Dec. 1956).

SOCIETY FOR THE STUDY OF DEVELOPMENT OF GROWTH, V. C. TWITTY

Rudnick, Dorothea, Ed. Cellular Mechanisms in Differentiation and Growth. 236 pp. Princeton, N. J., Princeton University Press, 1956.

UNIVERSITY OF TENNESSEE, R. C. FRASER

Fraser, Ronald C. The Presence and Significance of Respiratory Metabolism in Streak-Forming Chick Blastoderms. *Biological Bulletin*, 111: 77-91 (Aug. 1956).

Fraser, Ronald C. Somite Genesis in the Chick. 1. Partial Characterization of Stimulatory Factors in Egg White. *Growth*, 21: 29-43 (1957).

Fraser, Ronald C. Studies on the Hypoblast of the Young Chick Embryo. *Journal of Experimental Zoology*, 126: 349-399 (Aug. 1954).

TEXAS AGRICULTURAL EXPERIMENT STATION, J. N. WEAVER

Weaver, Nevin. Ovarian Development of Worker Honey Bees. *Journal of Economic Entomology*, 49: 854-857 (Dec. 1956).

UNIVERSITY OF VIRGINIA, M. S. MCKEEHAN

McKeehan, Morris S. The Relative Ribonucleic Acid Content of Lens

*Division of Biological and Medical Sciences—Continued***Developmental Biology—Continued**

and Retina During Lens Induction in the Chick. *American Journal of Anatomy*, 99: 131-155 (July 1956).

UNIVERSITY OF WASHINGTON, SEATTLE, W. S. HSU

Hsu, W. Siang. Oogenesis in the Bdelloidea Rotifer *Philodina Roseola Ehrenberg*. *La Cellule*, 62: 283-296 (1956).

UNIVERSITY OF WISCONSIN, K. B. RAPER  
Raper, Kenneth B. *Dictyostelium polycephalum* n.sp.: a New Cellular Slime Mould with Coremiform Fructifications. *Journal of General Microbiology*, 14: 716-732 (June 1956).

RAPER, KENNETH B. Factors Affecting Growth and Differentiation in Simple Slime Molds. *Mycologia*, 48: 169-205 (Mar.-Apr. 1956).

UNIVERSITY OF WYOMING, C. S. THORNTON

Thornton, Charles Stead. The Relation of Epidermal Innervation to the Regeneration of Limb Deplants in *Amblystoma* Larvae. *Journal of Experimental Zoology*, 133: 281-299 (Nov. 1956).

YALE UNIVERSITY, J. P. TRINKAUS

Trinkaus, J. P. The Differentiation of Tissue Cells. *American Naturalist*, 90: 273-288 (Sept.-Oct. 1956).

Trinkaus, J. P., and John W. Drake. Exogenous Control of Morphogenesis in Isolated *Fundulus* Blastoderms by Nutrient Chemical Factors. *Journal of Experimental Zoology*, 132: 311-347 (July 1956).

**Environmental Biology**

AMERICAN GEOGRAPHICAL SOCIETY, C. J. HEUSSER

Heusser, C. J. Third National Pollen Conference. *Geographical Review*, 46: 579-580 (1956).

AMERICAN MUSEUM OF NATURAL HISTORY, C. M. BREDER, Jr.

Rasquin, Priscilla. Cytological Evidence for a Role of the Corpuscles

of Stannius in the Osmoregulation of Teleosts. *Biological Bulletin*, 111: 399-409 (Dec. 1956).

Rasquin, Priscilla. Observations on the Metamorphosis of the Bonefish, *Albula Vulpes* (Linnaeus). *Journal of Morphology*, 97: 77-117 (July 1955).

CARLETON COLLEGE, J. B. GUYSELMAN  
Guyselmann, J. Bruce. Solar and Lunar Rhythms of Locomotor Activity in the Crayfish *Cambarus Virilis*. *Physiological Zoology*, 30: 70-87 (Jan. 1957).

DARTMOUTH COLLEGE, F. H. BORMANN  
Bormann, F. H. Moisture Transfer between Plant through Intertwined Root Systems. *Plant Physiology*, 32: 48-55 (Jan. 1957).

DUKE UNIVERSITY, P. J. KRAMER  
Kramer, Paul. Some Effects of Various Combinations of Day and Night Temperatures and Photoperiod on the Height Growth of Loblolly Pine. *Forest Science*, 3: 45-55 (Mar. 1957).

STATE UNIVERSITY OF IOWA, G. E. FOLK, Jr.

Farrand, Richard L., G. Edgar Folk, Jr., and Marvin L. Riedesel. Types of Mammalian Hibernation. *Proceedings of the Iowa Academy of Science*, 63: 724-728 (Dec. 1956).

Riedesel, Marvin L., and G. Edgar Folk, Jr. Serum Magnesium Changes in Hibernation. *Nature*, 177: 668 (Apr. 1956).

UNIVERSITY OF MIAMI, H. B. MOORE  
Moore, Hilary B. The Effects of Temperature, Illumination, and Pressure on the Vertical Distribution of Zooplankton. *Bulletin of Marine Science of the Gulf and Caribbean*, 6: 73-363 (Dec. 1956).

NEW MEXICO HIGHLANDS UNIVERSITY, L. M. SHIELDS

Shields, Lora Mangum. Zonation of Vegetation within the Tularosa

*Division of Biological and Medical Sciences—Continued***Environmental Biology—Continued**

Basin, New Mexico. *Southwestern Naturalist*, 1: 49-68 (Apr. 1956).

Shields, Lora Mangum, and Joe Crispin. Vascular Vegetation of a Recent Volcanic Area in New Mexico. *Ecology*, 37: 341-351 (Apr. 1956).

UNIVERSITY OF NEW MEXICO, C. C. HOFF  
Hoff, C. Clayton. Pseudoscorpions of the Family Chernetidae from New Mexico. *American Museum Novitates*, No. 1800, Oct. 1956, 66 pp.

STANFORD UNIVERSITY, W. C. BROWN  
Alcala, Angel C., and Walter C. Brown. Early Life History of Two Philippine Frogs with Notes on Deposition of Eggs. *Herpetologica*, 12: 241-246 (1956).

Brown, Walter C. A Revision of the Genus *Brachymeles* (*Scincidae*), with Descriptions of New Species and Subspecies. *Breviora*, Museum of Comparative Zoology, No. 54, June 1956, 19 pp.

Brown, Walter C., and Alfredo Y. Reyes. Philippine Lizards. Observations on the Incubation Period and on Hatchlings of Several Oviparous Species. *Silliman Journal*, 3: 139-143 (1956).

Brown, Walter, and Angel Alcala. Observations on Amphibians of the Mt. Halcon and Mt. Canlaon Areas, Philippine Islands. *Silliman Journal*, 2: 93-102 (Apr. 1955).

Brown, Walter C., and Angel C. Alcala. A Review of the Philippine Lizards of the Genus *Lygosoma* (*Leiolopisma*). *Occasional Papers of the Natural History Museum of Stanford University*, No. 3, Dec. 1956, 10 pp.

UNIVERSITY OF VIRGINIA, BRUCE D. REYNOLDS

Frye, B. E., and Diana TeStrake. A Preliminary Survey of the Habitat

Types of Two Species of Cypridium, *C. calceolus* var. *pubescens* and *C. acaule*. *Virginia Journal of Science*, 7: 176-188 (July 1956).

Harman, Walter J., and John O. Corliss. Isolation of Earthworm Setae by Use of Histophagous Protozoa. *Transactions of the American Microscopical Society*, 75: 332-333 (July 1956).

Holz, George G., Jr., and John O. Corliss. *Tetrahymena setifera* n. sp., a Member of the Genus *Tetrahymena* with a Caudal Cilium. *Journal of Protozoology*, 3: 112-118 (1956).

Hutchison, Victor H. Notes on the Plethodontid Salamanders, *Eurycea lucifuga* (Rafinesque) and *Eurycea longicauda longicauda* (Green). *Occasional Papers National Speleological Society*, No. 3, Nov. 1956, 24 pp.

WOODS HOLE OCEANOGRAPHIC INSTITUTION, G. L. CLARKE

Clarke, George L., and Richard H. Backus. Measurements of Light Penetration in Relation to Vertical Migration and Records of Luminescence of Deep-Sea Animals. *Deep-Sea Research*, 4: 1-14 (1956).

**Genetic Biology**

COLUMBIA UNIVERSITY, S. M. GARTLER

Tashian, Richard E. Determination of L-Tyrosine as Tyramine in Urine. *Clinical Chemistry*, 3: 106-109 (Apr. 1957).

EMORY UNIVERSITY, C. RAY, JR.

Ray, Charles, Jr. Preparation of Chromosomes of *Tetrahymena Pyriformis* for Photomicrography. *Stain Technology*, 31: 271-274 (Nov. 1956).

Ray, Charles, Jr., and Alfred M. Elliott. Strain Differences in Viability Following Conjugation Within Variety 9 of *Tetrahymena Pyriformis*. *Biological Bulletin*, 111: 310 (Oct. 1956).



*Division of Biological and Medical Sciences—Continued***Genetic Biology—Continued**

JOHNS HOPKINS UNIVERSITY, C. P. SWANSON

Kihlman, B. A. Factors Affecting the Production of Chromosome Aberrations by Chemicals. *Journal of Biophysical and Biochemical Cytology*, 2: 543-555 (Sept. 1956).

Swanson, C. P., and Bengt Kihlman. The Induction of Chromosomal Aberrations by Ionizing Radiations and Chemical Mutagens. pp. 239-251. *In: Ciba Foundation Symposium on Ionizing Radiations and Cell Metabolism*, 1956.

LONG ISLAND BIOLOGICAL ASSOCIATION  
Cold Spring Harbor Symposia on Quantitative Biology, Population Genetics: The Nature and Causes of Genetic Variability in Populations, v. 20, 346 pp., Cold Spring Harbor, Long Island, N. Y., Long Island Biological Association, 1955.

Cold Spring Harbor Symposia on Quantitative Biology, Genetic Mechanisms: Structure and Function, v. 21, 392 pp., Cold Spring Harbor, Long Island, N. Y., Long Island Biological Association, 1956.

UNIVERSITY OF MARYLAND, D. T. MORGAN, JR., AND R. D. RAPPLEYE

Morgan, D. T., Jr. Asynapsis and Plasmodial Microsporocytes in Maize Following X-irradiation of the Pollen. *Journal of Heredity*, 47: 269-274 (Nov.-Dec. 1956).

UNIVERSITY OF MICHIGAN, D. L. NANNEY  
Nanney, David L. Caryonidal Inheritance and Nuclear Differentiation. *American Naturalist*, 90: 291-307 (Sept.-Oct. 1956).

Nanney, David L. The Role of the Cytoplasm in Heredity. pp. 134-166. *In: McCollum-Pratt Symposium*, 1957.

UNIVERSITY OF MINNESOTA, J. G. GALL  
Gall, Joseph G. Small Granules in the Amphibian Oocyte Nucleus and

Their Relationship to RNA. *Journal of Biophysical and Biochemical Cytology*, 2: 393-396 (July 1956).

UNIVERSITY OF MISSOURI, E. R. SEARS, A. C. FABERGE, AND E. NOVITSKI

Novitski, E., and Iris Sandler. Are All Products of Spermatogenesis Regularly Functional? *Proceedings of the National Academy of Sciences*, 43: 318-324 (Apr. 1957).

UNIVERSITY OF NORTH CAROLINA, D. U. GERSTEL

Gerstel, D. U. Segregation in New Allopolyploids of *Gossypium*. I. The R<sub>1</sub> Locus in Certain New World-Wild American Hexaploids. *Genetics*, 41: 31-44 (Jan. 1956).

Gerstel, D. U., and Patricia A. Sarvella. Additional Observations on Chromosomal Translocations in Cotton Hybrids. *Evolution*, 10: 408-414 (Dec. 1956).

UNIVERSITY OF PENNSYLVANIA, JOHN R. PREER, JR.

Siegel, R. W. Mating Types in *Oxytricha* and the Significance of Mating Type Systems in Ciliates. *Biological Bulletin*, 110: 352-357 (June 1956).

RANCHO SANTA ANA BOTANICAL GARDEN, V. GRANT.

Grant, Verne. The Influence of Breeding Habit on the Outcome of Natural Hybridization in Plants. *American Naturalist*, 90: 319-322 (Sept.-Oct. 1956).

ROCKY MOUNTAIN BIOLOGICAL LABORATORY, E. NOVITSKI

Fancher, Harriett L. The Relationship between the Occupational Status of Individuals and the Sex Ratio of Their Offspring. *Human Biology*, 28: 316-322 (Sept. 1956).

Novitski, E., and L. Sandler. The Relationship Between Parental Age, Birth Order and the Secondary Sex Ratio in Humans. *Annals of Human Genetics*, 21: 123-131 (1956).

## Division of Biological and Medical Sciences—Continued

## Genetic Biology—Continued

## UNIVERSITY OF TEXAS, W. F. BLAIR

Blair, W. Frank. Comparative Survival of Hybrid Toads (*B. Woodhousei* × *B. Valliceps*) in Nature. *Copeia*, 4: 259–260 (Jan. 1956).

Vavala, Domenic A. Brief Notes and Communications. Insects Injuring Experimental Plantings of Flax and Sesame. *Texas Journal of Science*, 8: 235–240 (June 1956).

## WASHINGTON UNIVERSITY, ST. LOUIS, MO., H. L. CARSON AND H. D. STALKER

Stalker, Harrison D. Banded Polytene Chromosomes in the Ovarian Nurse Cells of Adult Diptera. *Journal of Heredity*, 45: 259–264 (Nov.–Dec. 1954).

Stalker, Harrison D. A Case of Polyploidy in Diptera. *Proceedings of the National Academy of Sciences*, 42: 194–199 (Apr. 1956).

## UNIVERSITY OF WASHINGTON, SEATTLE, W. SIANG HSU

Hsu, W. Siang. Oogenesis in *Habrotricha tridens* (Milne). *Biological Bulletin*, 3: 364–374 (Dec. 1956).

## WESLEYAN UNIVERSITY, J. LEDERBERG

Iino, Tetsuo and Joshua Lederberg. Transductional Analysis of Phase Variation in *Salmonella*. *Kagaku (Science, Tokyo)*, 26: 575 (1956).

Lederberg, Joshua. Bacterial Protoplasts Induced by Penicillin. *Proceedings of the National Academy of Sciences*, 42: 574–577 (Sept. 1956).

Lederberg, Joshua. Linear Inheritance in Transductional Clones. *Genetics*, 41: 845–871 (Nov. 1956).

Lederberg, Joshua, and Tetsua Iino. Phase Variation in *Salmonella*. *Genetics*, 41: 743–757 (Sept. 1956).

Morse, M. L., Esther M. Lederberg, and Joshua Lederberg. Transductional Heterogenotes in *Escherichia Coli*. *Genetics*, 41: 758–779 (Sept. 1956).

## WESTERN RESERVE UNIVERSITY, C. YANOFSKY

Yanofsky, Charles. The Enzymatic Conversion of Anthranilic Acid to Indole. *The Journal of Biological Chemistry*, 223: 171–184 (Nov. 1956).

Yanofsky, Charles. Enzymatic Studies with a Series of Tryptophan Auxotrophs of *Escherichia Coli*. *Journal of Biological Chemistry*, 224: 783–792 (Feb. 1957).

## YALE UNIVERSITY, H. P. PAPAIZIAN

Papazian, Haig P. Sex and Cytoplasm in the Fungi. *Transactions of the New York Academy of Sciences*, 18: 388–397 (Feb. 1956).

## YALE UNIVERSITY, H. P. TREFFERS

Treffers, Henry P., and Dorothy C. Alexander. The Effect of Chemical Substitution on the Activity and Resistance Patterns of Streptomycin Derivatives. *Antibiotics Annual*: 802–809 (1955–1956).

## Molecular Biology

## L. BLOCH-FRANKENTHAL

Winitz, Milton, Leah Bloch-Frankenthal, Nobuo Izumiya, Sanford M. Birnbaum, Carl G. Baker, and Jesse P. Greenstein. Studies on Diastereoisomeric  $\alpha$ -Amino Acids and Corresponding  $\alpha$ -Hydroxy Acids. VII. Influence of  $\beta$ -Configuration on Enzymic Susceptibility. *Journal of the American Chemical Society*, 78: 2423–2430 (June 1956).

## CALIFORNIA INSTITUTE OF TECHNOLOGY,

## R. B. COREY

Pasternak, R. A., Girair M. Nazarian, and Jerome R. Vinograd. A Fast Method for Reaching Equilibrium in the Ultracentrifuge. *Nature*, 179: 92–94 (Jan. 1957).

## CALIFORNIA INSTITUTE OF TECHNOLOGY,

## M. DELBRÜCK

Delbrück, M., and W. Reichardt. I. System Analysis for the Light Growth Reactions of *Phycomyces*.

*Division of Biological and Medical Sciences—Continued***Molecular Biology—Continued**

pp. 3-44. *In: Cellular Mechanisms in Differentiation and Growth*, Princeton, N. J., Princeton University Press, 1956.

UNIVERSITY OF CALIFORNIA, BERKELEY,  
G. MACKINNEY

Chichester, C. O., T. Nakayama, and G. Mackinney. A Carbon Balance on Glycine and Glucose in Carotene Synthesis. *Journal of Biological Chemistry*, 221: 819-822 (Aug. 1956).

Mackinney, G. Biochemical Studies on the Inheritance of Carotenoid Differences in the Tomato. *Genetica Agraria*, 7: 345-352 (1956).

Mackinney, G., C. M. Rick, and J. A. Jenkins. The Phytoene Content of Tomatoes. *Proceedings of the National Academy of Sciences*, 42: 404-408 (July 1956).

UNIVERSITY OF CALIFORNIA, DAVIS, A. L.  
BLACK

Black, A. L., M. Kleiber, A. H. Smith, and D. N. Stewart. Acetate as a Precursor of Amino Acids of Casein in the Intact Dairy Cow. *Biochimica et Biophysica Acta*, 23: 54-59 (1957).

Black, A. L., and Max Kleiber. The Tricarboxylic Acid Cycle as a Pathway for Transfer of Carbon from Acetate to Amino Acids in the Intact Cow. *Biochimica et Biophysica Acta*, 23: 59-69 (1957).

Kleiber, Max, and A. L. Black. Tracer Studies on Milk Formation in the Intact Dairy Cow. pp. 395-401. *In: A Conference on Radioactive Isotopes in Agriculture*, Washington, D. C., Superintendent of Documents, U. S. Government Printing Office, 1956.

UNIVERSITY OF CALIFORNIA, LOS ANGELES, D. E. ATKINSON

Atkinson, Daniel E. The Biochemistry of Hydrogenomonas. IV. The

Inhibition of Hydrogenase by Oxygen. *Journal of Biological Chemistry*, 218: 557-564 (Feb. 1956).

Atkinson, Daniel E. Hydrogen Metabolism in *Acetobacter Peroxydans*. *Journal of Bacteriology*, 72: 189-194 (Aug. 1956).

Atkinson, Daniel E. The Oxidation of Ethanol and Tricarboxylic Acid Cycle Intermediates by *Acetobacter Peroxydans*. *Journal of Bacteriology*, 72: 195-198 (Aug. 1956).

Atkinson, Daniel E., and Bruce A. McFadden. Use of Membrane Filters in the Measurement of Biological Incorporation of Radioactive Isotopes. *Journal of Bacteriology*, 71: 123-124 (Jan. 1956).

McFadden, Bruce A., and Daniel E. Atkinson. The Biochemistry of Hydrogenomonas. V. Factors Affecting Autotrophic Fixation of Carbon Dioxide. *Archives of Biochemistry and Biophysics*, 66: 16-22 (Jan. 1957).

McNall, Earl G., and Daniel E. Atkinson. Nitrate Reduction. I. Growth of *Escherichia coli* with Nitrate as Sole Source of Nitrogen. *Journal of Bacteriology*, 72: 226-229 (Aug. 1956).

UNIVERSITY OF SOUTHERN CALIFORNIA,  
P. D. SALTMAN

Saltman, Paul, George Kunitake, Herbert Spolter, and Clyde Stitts. The Dark Fixation of CO<sub>2</sub> by Succulent Leaves: the First Products. *Plant Physiology*, 31: 464-468 (Nov. 1956).

UNIVERSITY OF CHICAGO, B. VENNESLAND  
Levy, H. Richard, Frank A. Loewus, and Birgit Vennesland. The Enzymatic Transfer of Hydrogen. V. The Reaction Catalyzed by Glucose Dehydrogenase. *Journal of Biological Chemistry*, 222: 685-693 (Oct. 1956).

*Division of Biological and Medical Sciences—Continued***Molecular Biology—Continued**

Loewus, Frank A., H. Richard Levy, and Birgit Vennesland. The Enzymatic Transfer of Hydrogen. VI. The Reaction Catalyzed by *D*-Glyceraldehyde-3-Phosphate Dehydrogenase. *Journal of Biological Chemistry*, 223: 589–597 (Dec. 1956).

Nieman, R. H., and Birgit Vennesland. Cytochrome *c* Photooxidase of Spinach Chloroplasts. *Science*, 125: 353–354 (Feb. 1957).

**CHILDREN'S HOSPITAL OF PENNSYLVANIA, F. KARUSH**

Markus, Gabor, and Fred Karush. The Disulfide Bonds of Human Serum Albumin and Bovine  $\gamma$ -Globulin. *Journal of the American Chemical Society*, 79: 134–139 (Jan. 1957).

**COLUMBIA UNIVERSITY, E. A. KABAT**

Carsten, Mary E., and Elvin A. Kabat. Immunochemical Studies on Blood Groups. XIX. The Amino Acids of Blood Group Substances. *Journal of the American Chemical Society*, 78: 3083–3087 (July 1956).

Kabat, Elvin A. Heterogeneity in Extent of the Combining Regions of Human Antidextran. *Journal of Immunology*, 77: 377–385 (Dec. 1956).

McDuffie, F. C., and E. A. Kabat. A Comparative Study of Methods Used for Analysis of Specific Precipitates in Quantative Immunochemistry. *Journal of Immunology*, 77: 193–197 (Sept. 1956).

**COLUMBIA UNIVERSITY, S. LIEBERMAN**

Solomon, Samuel, Raymond Vande Wiele, and Seymour Lieberman. The *In Vitro* Synthesis of 17 $\alpha$ -Hydroxy-Progesterone and  $\Delta$ 4-Androstene-3,17-Dione from Progesterone by Bovine Ovarian Tissue. *Journal of the American Chemical Society*, 78: 5435 (1956).

**CONNECTICUT AGRICULTURAL EXPERIMENT STATION, H. B. VICKERY**

Vickery, Hubert Bradford. The Capacity of Leaves of *Bryophyllum Calycinum* to Recover from Prolonged Exposure to Darkness or to Light. *Plant Physiology*, 31: 455–464 (Nov. 1956).

Vickery, Hubert Bradford, and James K. Palmer. The Metabolism of the Organic Acids of Tobacco Leaves. XI. Effect of Culture of Excised Leaves in Solutions of Glycolate at pH 3 to pH 6. *Journal of Biological Chemistry*, 221: 79–92 (July 1956).

Zelitch, Israel.  $\alpha$ -Hydroxysulfonates as Inhibitors of the Enzymatic Oxidation of Glycolic and Lactic Acids. *Journal of Biological Chemistry*, 224: 251–260 (Jan. 1957).

**CORNELL UNIVERSITY, H. A. SCHERAGA**

Loeb, George I., and Harold A. Scheraga. Hydrodynamic and Thermodynamic Properties of Bovine Serum Albumin at Low pH. *Journal of Physical Chemistry*, 60: 1633–1644 (Dec. 1956).

Wagner, Myron L., and Harold A. Scheraga. Gouy Diffusion Studies of Bovine Serum Albumin. *Journal of Physical Chemistry*, 60: 1066–1076 (Aug. 1956).

**DUKE UNIVERSITY, G. W. SCHWERT**

Schwert, George W. Recovery of Native Bovine Serum Albumin after Precipitation with Trichloroacetic Acid and Solution in Organic Solvents. *Journal of the American Chemical Society*, 79: 139–141 (Jan. 1957).

**DUQUESNE UNIVERSITY, N. C. LI**

Li, Norman C., James M. White, and Robert L. Yoest. Some Metal Complexes of Glycine and Valine. *Journal of the American Chemical Society*, 78: 5218–5222 (Oct. 1956).

*Division of Biological and Medical Sciences—Continued***Molecular Biology—Continued**

White, James M., Theodore J. Weismann, and Norman C. Li. Magnetic Studies of Some Cobalt Complexes of Amino Acids and Peptides. *Journal of Physical Chemistry*, 61: 126–127 (Jan. 1957).

**FORDHAM UNIVERSITY, F. F. NORD**

Eberhardt, G. Investigations on Lignin and Lignification. XVI. On the Mechanism of the Biogenesis of Methyl *p*-Methoxycinnamate and Its Possible Relation to Lignification. *Journal of the American Chemical Society*, 78: 2832–2835 (June 1956).

Eberhardt, G., and Walter J. Schubert. Investigations on Lignin and Lignification. XVII. Evidence for the Mediation of Shikimic Acid in the Biogenesis of Lignin Building Stones. *Journal of the American Chemical Society*, 78: 2835–2837 (June 1956).

Jean, George N. Studies on the Chemistry of Heterocyclics. XXXI. Bi-Aromatics in the Thiophene Series. IV. The Resolution and Racemization of a  $\beta$ -Phenylthiophene Exhibiting Restricted Rotation. *Journal of Organic Chemistry*, 21: 419–422 (Apr. 1956).

Nord, F. F. Ricerche sulla lignina e sul processo di lignificazione. *Annali*, 16: 25–33 (1955).

Osbaehr, A. J., A. Vaitiekunas, and F. F. Nord. Studies on the Chemistry of Heterocyclics. XXVII.  $\alpha,\beta$ -Acetylenic Acids and Their Esters in the Thiophene Series. *Journal of the American Chemical Society*, 77: 1911–1912 (1955).

**HARVARD UNIVERSITY, K. BLOCH**

Gautschi, F., and K. Bloch. On the Structure of an Intermediate in the Biological Demethylation of Lanosterol. *Journal of the American Chemical Society*, 79: 684–689 (Feb. 1957).

Tchen, T. T., and K. Bloch. On the Mechanism of Cyclization of Squalene. *Journal of the American Chemical Society*, 78: 1516–1517 (Apr. 1956).

**HARVARD UNIVERSITY, L. F. FIESER**

Fieser, Louis F. Chemical Carcinogenesis. pp. 489–498. *In: Festschrift Arthur Stoll, Basel, Birkhäuser A. G., n. d.*

Fieser, Mary, Louis F. Fieser, Edmond Toromanoff, Yoshimasa Hirata, Hans Heymann, Melvin Tefft, and Sivaprasad Bhattacharya. Synthetic Emulsifying Agents. *Journal of the American Chemical Society*, 78: 2825–2832 (June 1956).

**HARVARD UNIVERSITY, J. M. WATSON**

Crick, F. H. C., J. D. Watson, and D. L. D. Caspar. Structure of Small Viruses. *Nature*, 177: 473–476 (Mar. 1956).

**HARVARD UNIVERSITY, F. H. WESTHEIMER**

Ingraham, Lloyd L., and F. H. Westheimer. The Thiamin-Pyruvate Reaction. *Chemistry and Industry*: 846–847 (1956).

Kumamoto, Junji, James R. Cox, Jr., and F. H. Westheimer. Barium Ethylene Phosphate. *Journal of the American Chemical Society*, 78: 4858–4860 (Oct. 1956).

Meriwether, Lewis, and F. H. Westheimer. Metal Ion Promoted Hydrolysis of Glycine Amide and of Phenylalanyl-glycine Amide. *Journal of the American Chemical Society*, 78: 5119–5123 (Oct. 1956).

**UNIVERSITY OF ILLINOIS, L. M. BLACK**

Brakke, Myron K. Stability of Potato Yellow-Dwarf Virus. *Virology*, 2: 463–476 (Aug. 1956).

**UNIVERSITY OF ILLINOIS, E. JUNI**

Juni, Elliot, and Gloria A. Heym. A Cyclic Pathway for the Bacterial Dissimilation of 2,3-Butanediol, Acetylmethylcarbinol and Diacetyl. II. The Synthesis of Diacetylmethyl-

*Division of Biological and Medical Sciences—Continued***Molecular Biology—Continued**

carbinol from Diacetyl, a New Diposphothiamin Catalyzed Reaction. *Journal of Bacteriology*, 72: 746-753 (Dec. 1956).

Juni, Elliot, and Gloria A. Heym. Preparation, Properties, and Colorimetric Determination of Diacetyl-methylcarbinol. *Archives of Biochemistry and Biophysics*, 67: 410-422 (Apr. 1957).

**UNIVERSITY OF ILLINOIS, J. LARNER**

Larner, Joseph. Hydrolysis of Isomaltotriose by Oligo-1,6-glucosidase. *Journal of the American Chemical Society*, 77: 6385-6386 (1955).

Larner, Joseph, and R. E. Gillespie. Gastrointestinal Digestion of Starch. II. Properties of the Intestinal Carbohydrases. *Journal of Biological Chemistry*, 223: 709-726 (Dec. 1956).

Larner, Joseph, and R. E. Gillespie. Gastrointestinal Digestion of Starch. III. Intestinal Carbohydrase Activities in Germ-Free and Non-Germ-Free Animals. *Journal of Biological Chemistry*, 225: 279-285 (Mar. 1957).

Larner, J., B. Roger Ray, and H. F. Crandall. Pattern of Action of Crystalline Muscle Phosphorylase on Glycogen as Determined from Molecular Size Distribution Studies. *Journal of the American Chemical Society*, 78: 5890-5898 (Nov. 1956).

Larner, J., and D. N. Uwah. On the Specificity of Branching Enzymes. *Journal of the American Chemical Society*, 78: 3647-3648 (1956).

**UNIVERSITY OF ILLINOIS, W. A. WOOD**

Simpson, F. J., and W. A. Wood. L-Ribulose-5-Phosphate: Formation by Purified Kinase from *Aerobacter Aerogenes*. *Journal of the American Chemical Society*, 78: 5452 (1956).

**IOWA STATE COLLEGE OF AGRICULTURAL AND MECHANICAL ARTS**

Aronoff, S. Experiments on the Biogenesis of the Pyridine Ring in Higher Plants. *Plant Physiology*, 31: 355-357 (Sept. 1956).

Aronoff, S. Photosynthesis. *Botanical Review*, 23: 65-107 (Feb. 1957).

Gage, R. S., and S. Aronoff. Chlorophyllase in Soybean. *Plant Physiology*, 31: 477-478 (Nov. 1956).

**STATE UNIVERSITY OF IOWA, C. TANFORD**

Buzzell, John G., and Charles Tanford. The Effect of Charge and Ionic Strength on the Viscosity of Ribonuclease. *Journal of Physical Chemistry*, 60: 1204-1207 (Sept. 1956).

Tanford, Charles, and Jack D. Hauenstein. Hydrogen Ion Equilibria of Ribonuclease. *Journal of the American Chemical Society*, 78: 5287-5291 (Oct. 1956).

**JOHNS HOPKINS UNIVERSITY, V. G. DETHIER**

Dethier, V. G., D. R. Evans, and M. V. Rhoades. Some Factors Controlling the Ingestion of Carbohydrates by the Blowfly. *Biological Bulletin*, 111: 204-222 (Oct. 1956).

Evans, D. R., and V. G. Dethier. The Regulation of Taste Thresholds for Sugars in the Blowfly. *Journal of Insect Physiology*, 1: 3-17 (1957).

**JOHNS HOPKINS UNIVERSITY, A. L. LEHNINGER**

Cooper, Cecil, and Albert L. Lehninger. Oxidative Phosphorylation by an Enzyme Complex from Extracts of Mitochondria. IV. Adenosinetriphosphatase Activity. *Journal of Biological Chemistry*, 224: 547-560 (Jan. 1957).

Cooper, Cecil, and Albert L. Lehninger. Oxidative Phosphorylation by an Enzyme Complex from Extracts of Mitochondria. V. The Adenosine Triphosphate-Phosphate Exchange

*Division of Biological and Medical Sciences—Continued***Molecular Biology—Continued**

Reaction. *Journal of Biological Chemistry*, 224: 561-578 (Jan. 1957).

Gamble, James L., Jr. Aggregation of Mitochondria, Mitochondrial Fragments, and Microsomes by Cytochrome *c*. *Biochimica et Biophysica Acta*, 23: 306-311 (1957).

Gamble, James L., Jr., and Albert L. Lehninger. Activity of Respiratory Enzymes and Adenosine-Triphosphatase in Fragments of Mitochondria. *Journal of Biological Chemistry*, 223: 921-933 (Dec. 1956).

Lehninger, Albert L. Physiology of Mitochondria. pp. 217-233. *In*: Henry Ford Hospital International Symposium, Enzymes: Units of Biological Structure and Function, New York, Academic Press Inc., 1956.

Tapley, Donald F. The Effect of Thyroxine and other Substances on the Swelling of Isolated Rat Liver Mitochondria. *Journal of Biological Chemistry*, 222: 325-339 (Sept. 1956).

Tapley, Donald F., and Cecil Cooper. The Effect of Thyroxine and Related Compounds on Oxidative Phosphorylation. *Journal of Biological Chemistry*, 222: 341-349 (Sept. 1956).

Wadkins, Charles L., and Albert L. Lehninger. Oxidation State of Respiratory Carriers and the Mechanism of Oxidative Phosphorylation. *Journal of the American Chemical Society*, 79: 1010 (1957).

**MARINE BIOLOGICAL LABORATORY,  
R. BENESCH**

Benesch, Reinhold, and Ruth E. Benesch. Determination of Sulfhydryl and Disulfide Groups by Specific Proton Displacement. *Biochimica et Biophysica Acta*, 23: 643-644 (1957).

Benesch, Ruth E., and Reinhold Benesch. Electrolytic Reduction of Mercaptides. A New Method for the Isolation of Thiol Amino Acids and Peptides. *Biochimica et Biophysica Acta*, 23: 658-659 (1957).

**MARINE BIOLOGICAL LABORATORY, ALBERT  
SZENT-GYÖRGYI**

Szent-Györgyi, Albert. *Bioenergetics*. 143 pp. New York, Academic Press Inc. (1957).

**MICHIGAN STATE UNIVERSITY, R. S.  
BANDURSKI**

Bandurski, Robert S., Lloyd G. Wilson, and Craig L. Squires. The Mechanism of "Active Sulfate" Formation. *Journal of the American Chemical Society*, 78: 6408 (1956).

Ching, Te-May Tsou, Robert H. Hamilton, and Robert S. Bandurski. Selective Inhibition of the Geotropic Response by *n*-1-Naphthylphthalamine Acid. *Physiologia Plantarum*, 9: 546-558 (1956).

Wilson, Lloyd G., and Robert S. Bandurski. An Enzymatic Reaction Involving Adenosine Triphosphate and Selenate. *Archives of Biochemistry and Biophysics*, 62: 503-506 (June 1956).

**UNIVERSITY OF MICHIGAN, M. J. COON  
Coon, Minor J.** An Approach to the Enzymatic Synthesis of Isoprenoid Compounds. *University of Michigan Medical Bulletin*, 22: 380-383 (Sept. 1956).

Rendina, George, and Minor J. Coon. Enzymatic Hydrolysis of the Coenzyme A Thiol Esters of  $\beta$ -Hydroxypropionic and  $\beta$ -Hydroxyisobutyric Acids. *Journal of Biological Chemistry*, 225: 523-534 (Mar. 1957).

Robinson, William G., and Minor J. Coon. The Purification and Properties of  $\beta$ -Hydroxyisobutyric Dehydrogenase. *Journal of Biological Chemistry*, 225: 511-521 (Mar. 1957).

*Division of Biological and Medical Sciences—Continued***Molecular Biology—Continued**

UNIVERSITY OF MICHIGAN, A. G. NORMAN Binger, Herman P., and A. G. Norman. Acid Resistance of Cell Wall Pentosans. Investigation of Chlorine-Sulphite and Sodium Chlorite Cellulose Preparations from Some Woods and Fibers. *Tappi*, 39: 430-432 (June 1956).

UNIVERSITY OF MINNESOTA, R. LUMRY Lumry, R. General Discussion. *Faraday Society Discussions*, No. 20: 1-3 (1955).

Lumry, Rufus and Emil L. Smith. The Chemical Kinetics of Some Reactions Catalyzed by Pancreatic Carboxypertidase. *Faraday Society Discussions*, No. 20: 105-114. (1955).

MONTANA STATE COLLEGE, J. H. PEPPER AND L. H. JOHNSON

DeHaas, Bernice W., Leon H. Johnson, J. H. Pepper, Ellsworth Hastings, and Graeme L. Baker. Proteins of Mormon Cricket Exoskeleton. 1. Amino Acid Composition of (a) Pronotal Shields, (b) Abdominal Tergites, (c) Abdominal Intersegmental Connectives. *Physiological Zoölogy*, 30: 121-127 (Apr. 1957).

MOUNT SINAI HOSPITAL, J. D. CHANLEY Chanley, J. D., and Edward Feagenson. Fe(III) Complexes of *o*-Hydroxy Aromatic Acids. *Journal of the American Chemical Society*, 78: 2237-2241 (May 1956).

UNIVERSITY OF NEBRASKA, J. H. PAZUR Pazur, John H., Tania Budovich, and Carl L. Tipton. The Enzymatic Synthesis and Disproportionation of 3-O- $\alpha$ -D-Glucopyranosyl-D-glucose. *Journal of the American Chemical Society*, 79: 625-628 (Feb. 1957).

Pazur, John H., and Carl L. Tipton. The Synthesis in vivo of Lactose from Glucose-1-C<sup>14</sup> and Galactose-1-C<sup>14</sup> in the Guinea Pig. *Journal of Biological Chemistry*, 224: 381-385 (Jan. 1957).

NEW YORK UNIVERSITY, PAUL R. GROSS Gross, Paul R., and Lawrence I. Gilbert. Chemistry and Ultrastructure of Amphibian Yolk Platelets. *Transactions of the New York Academy of Sciences*, 19: 108-117 (Dec. 1956).

Nass, Sylvan. Phosphoprotein Phosphatase of Amphibian Yolk. *Transactions of the New York Academy of Sciences*, 19: 118-129 (Dec. 1956).

NORTHWESTERN UNIVERSITY, J. W. HASTINGS

Hastings, J. Woodland, and John Buck. The Firefly Pseudoflash in Relation to Photogenic Control. *Biological Bulletin*, 111: 101-113 (Aug. 1956).

UNIVERSITY OF PENNSYLVANIA, B. CHANCE

Chance, Britton. Enzyme-Substrate Compounds and Electron Transfer. pp. 308-337. *In: Currents in Biochemical Research*, New York, Interscience Publishers, Inc., 1956.

Chance, Britton. Interaction of Adenosinediphosphate with the Respiratory Chain. pp. 447-463. *In: Henry Ford Hospital International Symposium, Enzymes: Units of Biological Structure and Function*, New York, Academic Press Inc., 1956.

Chance, Britton. On Possible Mechanisms for the Control of Electron Transport in the Respiratory Chain. pp. 300-304. *In: Proceedings of the Third International Congress of Biochemistry*, New York, Academic Press Inc., 1956.

Chance, Britton, and G. R. Williams. Respiratory Enzymes in Oxidative Phosphorylation. VI. The Effects of Adenosine Diphosphate on Azide-Treated Mitochondria. *Journal of Biological Chemistry*, 221: 477-489 (July 1956).



*Division of Biological and Medical Sciences—Continued***Molecular Biology—Continued****UNIVERSITY OF PITTSBURGH, K. HOFMANN**

Hofmann, Klaus, Heini Kappeler, Andreas E. Furlenmeier, Miriam E. Wooner, Eleanore T. Schwartz, and Thomas A. Thompson. Studies on Polypeptides. IX. Synthesis of Peptides Containing Basic Amino Acid Residues, Related to Corticotropin and Intermedin. *Journal of the American Chemical Society*, 79: 1641-1644 (Apr. 1957).

**UNIVERSITY OF PITTSBURGH, M. A. LAUFFER**

Cartwright, T. E., A. E. Ritchie, and Max A. Lauffer. The Reaction of Tobacco Mosaic Virus with Formaldehyde. III. Kinetics of the Loss of Infectivity. *Virology*, 2: 689-702 (Oct. 1956).

**PRINCETON UNIVERSITY, A. M. CHASE**

Chase, Aurin M., and Mary S. Krotkov. Inactivation of Invertase by Urea. *Journal of Cellular and Comparative Physiology*, 47: 305-316 (June 1956).

**PURDUE RESEARCH FOUNDATION, S. BENZER**

Benzer, Seymour. The Elementary Units of Heredity. pp. 70-93. In: *The Chemical Basis of Heredity*, Baltimore, Md., The Johns Hopkins Press, 1957.

**PURDUE RESEARCH FOUNDATION, J. F. FOSTER**

Aoki, Koichiro, and Joseph F. Foster. Electrophoretic Demonstration of the Isomerization of Bovine Plasma Albumin at Low pH. *Journal of the American Chemical Society*, 78: 3538 (1956).

**REED COLLEGE, H. A. STAFFORD**

Stafford, Helen A. Dehydrogenase Activity of Hydroxymalonate and Related Acids in Higher Plants. *Plant Physiology*, 31: 135-141 (Mar. 1956).

**RUTGERS UNIVERSITY, M. HEIDELBERGER**

Heidelberger, Michael, and Felix Cordoba. Cross-Reactions of Antityphoid and Antiparatyphoid B Horse Sera with Various Polysaccharides. *Journal of Experimental Medicine*, 104: 375-382 (Sept. 1956).

**STANFORD UNIVERSITY, L. R. BLINKS**

Blinks, L. R. Photosynthesis and Productivity of Littoral Marine Algae. *Journal of Marine Research*: 363-373 (1955).

Gibor, Aaron. The Culture of Brine Algae. *Biological Bulletin*, 111: 223-229 (Oct. 1956).

Gibor, Aaron. Some Ecological Relationships between Phyto- and Zooplankton. *Biological Bulletin*, 111: 230-234 (Oct. 1956).

**UNIVERSITY OF TENNESSEE, R. E. KOEPPE**

Koeppe, Roger E., and Robert J. Hill. A Note on the Effect of L-Leucine on the Incorporation of Bicarbonate Carbon into Glutamic Acid by the Rat. *Biochimica et Biophysica Acta*, 22: 544-546 (1956).

**AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS, R. REISER**

Dieckert, Julius W., and Raymond Reiser. Paper Chromatography of Phospholipides on Silicic Acid Impregnated Glass Fiber Filter Paper. *Journal of the American Oil Chemists' Society*, 33: 535-537 (Nov. 1956).

**TUFTS UNIVERSITY, E. HEINZ**

Heinz, Erich. The Exchangeability of Glycine Accumulated by Carcinoma Cells. *Journal of Biological Chemistry*, 225: 305-315 (Mar. 1957).

**TUFTS UNIVERSITY, A. MEISTER**

Otani, Theodore T., and Alton Meister.  $\omega$ -Amide and  $\omega$ -Amino Acid Derivatives of  $\alpha$ -Ketoglutaric and Oxalacetic Acids. *Journal of Bio-*

*Division of Biological and Medical Sciences—Continued***Molecular Biology—Continued**

logical Chemistry, 224: 137-148 (Jan. 1957).

VANDERBILT UNIVERSITY, O. TOUSTER  
Hollmann, Siegfried, and Oscar Touster. An Enzymatic Pathway from L-Xylulose to D-Xylulose. Journal of the American Chemical Society, 78: 3544-3545 (July 1956).

Hollmann, Siegfried, and Oscar Touster. The L-Xylulose-xylitol Enzyme and Other Polyol Dehydrogenases of Guinea Pig Liver Mitochondria. Journal of Biological Chemistry, 225: 87-102 (Mar. 1957).

Touster, Oscar, V. H. Reynolds, and Ruth M. Hutcheson. The Reduction of L-Xylulose to Xylitol by Guinea Pig Liver Mitochondria. Journal of Biological Chemistry, 221: 697-709 (Aug. 1956).

WASHINGTON UNIVERSITY, ST. LOUIS, MO., M. COHN

Drysdale, George R., and Mildred Cohn. The Stereospecificity of Enzymic Interaction of Diphosphopyridine Nucleotide with Water. Biochimica et Biophysica Acta, 21: 397-398 (1956).

WESTERN RESERVE UNIVERSITY, H. Z. SABLE

Guarino, Armand J., and Henry Z. Sable. Studies on Phosphomutases. III. The Phosphoribomutase of Bovine Uterus. Biochimica et Biophysica Acta, 20: 201-208 (1956).

UNIVERSITY OF WISCONSIN, H. BEINERT

Beinert, Helmut. Evidence for an Intermediate in the Oxidation-Reduction of Flavoproteins. Journal of Biological Chemistry, 225: 465-478 (Mar. 1957).

Beinert, Helmut. New Evidence for the Occurrence of Free Radicals in Flavoprotein Catalysis. Biochimica et Biophysica Acta, 20: 588-590 (1956).

Beinert, Helmut. Spectral Characteristics of Flavins at the Semiquinoid Oxidation Level. Journal of the American Chemical Society, 78: 5323-5328 (Oct. 1956).

Beinert, Helmut, and Ernest Page. On the Mechanism of Dehydrogenation of Fatty Acyl Derivatives of Coenzyme A. V. Oxidation-Reductions of the Flavoproteins. Journal of Biological Chemistry, 225: 479-497 (Mar. 1957).

Hauge, Jens G. On the Mechanism of Dehydrogenation of Fatty Acyl Derivatives of Coenzyme A. IV. Kinetic Studies. Journal of the American Chemical Society, 78: 5266-5272 (Oct. 1956).

WOODS HOLE OCEANOGRAPHIC INSTITUTION, F. A. RICHARDS AND B. H. KETCHUM

Creitz, Grace I., and Francis A. Richards. The Estimation and Characterization of Plankton Populations by Pigment Analysis. III. A Note on the Use of "Millipore" Membrane Filters in the Estimation of Plankton Pigments. Journal of Marine Research, 14: 211-216 (Nov. 1955).

YALE UNIVERSITY, G. EVELYN HUTCHINSON

Hutchinson, G. E., and J. R. W. Vallentyne. New Approaches to the Study of Lake Sediments. Proceedings of the International Association of Theoretical and Applied Limnology, 12: 669-670 (1955).

Vallentyne, J. R. Biochemical Limnology. Science, 119: 605-606 (Apr. 1954).

YESHIVA UNIVERSITY, J. WITTENBERG

Wittenberg, J. B. The Separation of the C<sub>6</sub>-C<sub>12</sub> Fatty Acids by Reversed-Phase Partition Chromatography. Biochemical Journal, 65: 42-45 (1957).

*Division of Biological and Medical Sciences—Continued***Psychobiology****BOSTON UNIVERSITY, J. M. HARRISON**

Barry, J. J., Jr., and J. M. Harrison. Relation between Stimulus Intensity and Strength of Escape Responding. *Psychological Reports*, 3: 3-8 (1957).

Tracy, W. H., and J. M. Harrison. Aversive Behavior Following Lesions of the Septal Region of the Forebrain in the Rat. *American Journal of Psychology*, 69: 443-447 (Sept. 1956).

**UNIVERSITY OF SOUTHERN CALIFORNIA, W. W. GRINGS**

Grings, William W., and Dale E. O'Donnell. Magnitude of Response to Compounds of Discriminated Stimuli. *Journal of Experimental Psychology*, 52: 354-359 (Dec. 1956).

**HARVARD UNIVERSITY, P. TEITELBAUM**

Williams, David R., and Philip Teitelbaum. Control of Drinking Behavior by Means of an Operant-Conditioning Technique. *Science*, 124: 1294-1296 (Dec. 1956).

**STATE UNIVERSITY OF IOWA, D. LEWIS**

Lewis, Don, and William F. Lowe. Retention of Skill on the SAM Complex Coordinator. *Proceedings of the Iowa Academy of Science*, 63: 591-599 (Dec. 1956).

Lewis, Don, and Guy H. Miles. Retroactive Interference in Performance on the Star Discrimeter as a Function of Amount of Interpolated Learning. *Perceptual and Motor Skills*, 6: 295-298 (1956).

Miles, Guy H., and Don Lewis. Age and Handedness as Factors in the Performance of a Complex Pursuit Task: Results of a Study at the Iowa State Fair. *Proceedings of the Iowa Academy of Science*, 63: 568-575 (Dec. 1956).

**JOHNS HOPKINS UNIVERSITY, E. F. MACNICHOL**

MacNichol, Edward F., Jr., and Robert Benolken. Blocking Effect of Ethyl Alcohol in Inhibitory Synapses in the Eye of *Limulus*. *Science*, 124: 681-682 (Oct. 1956).

**UNIVERSITY OF KANSAS, C. D. MICHENER**

Michener, Charles D., Earle A. Cross, Howell V. Daly, Carl W. Rettenmeyer, and Alvaro Wille. Additional Techniques for Studying the Behavior of Wild Bees. *Insecta Socialia*, 2: 237-246 (1955).

Michener, Charles D., and Carl W. Rettenmeyer. The Ethology of *Andrena erythronii* with Comparative Data on Other Species (Hymenoptera, Andrenidae). *University of Kansas Science Bulletin*, 37: 645-684 (June 1956).

**MONTANA STATE COLLEGE, J. E. CONKLIN**

Conklin, J. E. The Influence of Figural Inspection on Visible Movement: I. The Figural After-Effect. *Northwest Science*, 30: 77-98 (1956).

Conklin, J. E. The Influence of Figural Inspection on Visible Movement: II. The Autokinetic Illusion and Visual Rate Perception. *Northwest Science*, 30: 133-145 (1956).

**NEW YORK UNIVERSITY, H. H. KENDLER AND T. S. KENDLER**

Kendler, Howard H., and Tracy S. Kendler. Inferential Behavior in Preschool Children. *Journal of Experimental Psychology*, 51: 311-314 (1956).

**NORTHWESTERN UNIVERSITY, C. P. DUNCAN AND DONALD J. LEWIS**

Lewis, Donald J., and Carl P. Duncan. Effect of Different Percentages of Money Reward of Extinction of a Lever-Pulling Response. *Journal of Experimental Psychology*, 52: 23-27 (July 1956).

**Psychobiology—Continued**

PENNSYLVANIA STATE UNIVERSITY, J. F. CORSO

Corso, John F. The Neural Quantum Theory of Sensory Discrimination. *Psychological Bulletin*, 53: 371-393 (Sept. 1956).

UNIVERSITY OF PENNSYLVANIA, J. H. GROSSLIGHT

Grosslight, Joseph H., and Robert Radlow. Patterning Effect of the Nonreinforcement-Reinforcement Sequence in a Discrimination Situation. *Journal of Comparative and Physiological Psychology*, 49: 542-546 (Dec. 1956).

Grosslight, Joseph H., and Robert Radlow. Patterning Effect of the Nonreinforcement-Reinforcement Sequence Involving a Single Nonreinforced Trail. *Journal of Comparative and Physiological Psychology*, 50: 23-25 (Feb. 1957).

PRINCETON UNIVERSITY, H. GULLIKSEN  
Gulliksen, Harold. A Least Squares Solution for Paired Comparisons with Incomplete Data. *Psychometrika*, 21: 125-134 (June 1956).

Messick, Samuel J. An Empirical Evaluation of Multidimensional Successive Intervals. *Psychometrika*, 21: 367-375 (Dec. 1956).

Messick, Samuel J. The Perception of Social Attitudes. *Journal of Abnormal and Social Psychology*, 52: 57-66 (Jan. 1956).

Messick, Samuel J., and Robert P. Abelson. The Additive Constant Problem in Multidimensional Scaling. *Psychometrika*, 21: 1-15 (Mar. 1956).

Tucker, Ledyard R. The Objective Definition of Simple Structure in Linear Factor Analysis. *Psychometrika*, 20: 209-225 (Sept. 1955).

Woodbury, Max A., and Frederick M. Lord. The Most Reliable Composite with a Specified True Score.

*British Journal of Statistical Psychology*, 9: 21-28 (May 1956).

PRINCETON UNIVERSITY, W. M. SMITH  
Smith, W. M., and W. L. Gulick. Dynamic Contour Perception. *Journal of Experimental Psychology*, 53: 145-152 (1957).

Smith, William M., and W. L. Gulick. Visual Contour and Movement Perception. *Science*, 124: 316-317 (Aug. 1956).

WESTERN RESERVE UNIVERSITY, J. H. BRUELL AND G. W. ALBEE

Bruell, Jan H., Mieczyslaw Peszczyński, and George W. Albee. Disturbance of Perception of Verticality in Patients with Hemiplegia: a Preliminary Report. *Archives of Physical Medicine and Rehabilitation*, 37: 677-681 (Nov. 1956).

Peszczyński, Mieczyslaw. Prevention of Falls in the Hemiplegic Patient. *Geriatrics*, 11: 306-311 (July 1956).

Volk, David, and Jan H. Bruell. Eye Movements in an Adult with Cerebral Hemispherectomy. *American Journal of Ophthalmology*, 42: 319-322 (Oct. 1956).

MUNICIPAL UNIVERSITY OF WICHITA, N. H. PRONKO

Lawless, Richard H. Mazes for Small Aquatic Animals. *American Journal of Psychology*, 69: 667 (Dec. 1956).

Rice, George E., Jr., and Richard H. Lawless. Behavior Variability and Reactive Inhibition in the Maze Behavior of *Planaria Dorocephala*. *Journal of Comparative and Physiological Psychology*, 50: 105-108 (Sept. 1957).

UNIVERSITY OF WISCONSIN, K. U. SMITH  
Huiskamp, Janet, Robert C. Smader, and K. U. Smith. Dimensional Analysis of Motion: IX. Comparison of Visual and Nonvisual Control of Component Movements. *Journal of*

*Division of Biological and Medical Sciences—Continued***Psychobiology—Continued**

Applied Psychology, 40: 181-186 (1956).

Simon, J. Richard. The Duration of Movement Components in a Repetitive Task as a Function of the Locus of a Perceptual Cue. *Journal of Applied Psychology*, 40: 295-301 (1956).

Smith, Karl U., and Richard Bloom. The Electronic Handwriting Analyzer and Motion Study of Writing. *Journal of Applied Psychology*, 40: 302-306 (1956).

Smith, William M., Karl U. Smith, Ray Stanley, and William Harley. Analysis of Performance in Televised Visual Fields: Preliminary Report. *Perceptual and Motor Skills*, 6: 195-198 (Sept. 1956).

UNIVERSITY OF WYOMING, M. ALTMANN  
Altmann, Margaret. Patterns of Social Behavior in Big Game. pp. 538-545. *In: Transactions of the Twenty-first North American Wildlife Conference, March 5, 6, and 7, 1956, Washington, D. C. Wildlife Management Institute, 1956.*

YALE UNIVERSITY, F. A. LOGAN  
Logan, Frank A., Eileen M. Beier, and Wendell D. Kincaid. Extinction Following Partial and Varied Reinforcement. *Journal of Experimental Psychology*, 52: 65-70 (Aug. 1956).

YALE UNIVERSITY, H. E. ROSVOLD  
Rosvold, H. Enger, Allan F. Mirsky, Irwin Sarason, Edwin D. Bransome, Jr., and Lloyd H. Beck. A Continuous Performance Test of Brain Damage. *Journal of Consulting Psychology*, 20: 343-350 (1956).

**Regulatory Biology**

CALIFORNIA INSTITUTE OF TECHNOLOGY,  
A. W. GALSTON

Pilet, P. E., and A. W. Galston. Auxin Destruction, Peroxidase Activ-

ity, and Peroxide Genesis in the Roots of *Lens Culinaris* *Physiologia Plantarum*, 8: 888-898 (1955).

UNIVERSITY OF CALIFORNIA, BERKELEY, L. MACHLIS

Machlis, Leonard. Factors Affecting the Lag Phase of Growth of the Filamentous Fungus, *Allomyces Macrogynus*. *American Journal of Botany*, 44: 113-119 (Feb. 1957).

Machlis, Leonard, and Jean M. Crasemann. Physiological Variation between the Generations and among the Strains of Watermolds in the Subgenus *Euallomyces*. *American Journal of Botany*, 43: 601-611 (Oct. 1956).

UNIVERSITY OF CALIFORNIA, BERKELEY,  
P. K. STUMPF

Stumpf, P. K. Fat Metabolism in Higher Plants. VIII. Saturated Long Chain Fatty Acid Peroxidase. *Journal of Biological Chemistry*, 223: 643-649 (Dec. 1956).

Stumpf, P. K., and George A. Barber. Fat Metabolism in Higher Plants. VII.  $\beta$ -Oxidation of Fatty Acids by Peanut Mitochondria. *Plant Physiology*, 31: 304-308 (July 1956).

UNIVERSITY OF CALIFORNIA, LOS ANGELES, T. H. BULLOCK

Bullock, T. H., and F. P. J. Diecke. Properties of an Infra-Red Receptor. *Journal of Physiology*, 134: 47-87 (1956).

UNIVERSITY OF CALIFORNIA, LOS ANGELES, C. H. SAWYER

Sawyer, Charles H. Further Experiments on Cholinesterase and Reflex Activity in *Amblystoma* Larvae. *Journal of Experimental Zoology*, 129: 561-578 (Aug. 1955).

Tokizane, Toshihiko, and Charles H. Sawyer. Sites of Origin of Hypoglycemic Seizures in the Rabbit. *American Medical Association Archives of Neurology and Psychiatry*, 77: 259-266 (Mar. 1957).

*Division of Biological and Medical Sciences—Continued***Regulatory Biology—Continued**

- UNIVERSITY OF CHICAGO, I. VEITH  
Veith, Ilza. Freud's Place in the History of Medicine. *Behavioral Science*, 2: 67-74 (Jan. 1957).
- COLUMBIA UNIVERSITY, E. CHARGAFF  
Chargaff, Erwin, David Elson, and Harold T. Shigaura. The Stoichiometric Relationship between Amino-Acid and Nucleotide Residues in a Ribonucleoprotein. *Nature*, 178: 682-684 (Sept. 1956).
- Tunis, Marvin, and Erwin Chargaff. Separation of Nucleoside Phosphotransferase and Phosphatase Activities. *Biochimica et Biophysica Acta*, 21: 204-205 (1956).
- COLUMBIA UNIVERSITY, H. ELFTMAN  
Elftman, Herbert. A Chrome-Alum Fixative for the Pituitary. *Stain Technology*, 32: 25-28 (Jan. 1957).
- Elftman, Herbert. Phospholipid Fixation by Dichromate-Sublimate. *Stain Technology*, 32: 29-31 (Jan. 1957).
- COLUMBIA UNIVERSITY, H. GRUNDFEST  
Grundfest, Harry, and Dominick P. Purpura. Inexcitability of Cortical Dendrites to Electric Stimuli. *Nature*, 178: 416-417 (Aug. 1956).
- Purpura, Dominick P., and Harry Grundfest. Blockade of Cardiac Synapses by Succinylcholine. *Science*, 124: 319-320 (Aug. 1956).
- Purpura, Dominick P., and Harry Grundfest. Nature of Dendritic Potentials and Synaptic Mechanisms in Cerebral Cortex of Cat. *Journal of Neurophysiology*, 19: 573-595 (1956).
- COLUMBIA UNIVERSITY, B. C. SEEGAL  
Seegal, Beatrice Carrier, and Margaret Bevans. The Production of Glomerulonephritis by Immunologic Methods. *Journal of Chronic Diseases*, 5: 153-172 (Jan. 1957)
- CORNELL UNIVERSITY, D. B. MELVILLE  
Melville, Donald B., Dorothy S. Genghof, Edward Inamine, and Vladimir Kovalenko. Ergothioneine in Microorganisms. *Journal of Biological Chemistry*, 223: 9-17 (Nov. 1956).
- EMORY UNIVERSITY, C. G. GOODCHILD  
Goodchild, Chauncey G. Reconstitution of the Intestinal Tract in the Adult Leopard Frog, *Rana Pipiens* Schreber. *Journal of Experimental Zoology*, 131: 301-327 (Apr. 1956).
- HARVARD UNIVERSITY, L. R. CLEVELAND  
Cleveland, L. R. Cell Division without Chromatin in *Trichonympha* and *Barbulanympha*. *Journal of Protozoology*, 3: 78-83 (1956).
- Cleveland, L. R. Hormone-Induced Sexual Cycles of Flagellates. XIV. Gametic Meiosis and Fertilization in *Macropsironympha*. *Archiv für Protistenkunde*, 101: 99-169 (1956).
- Cleveland, L. R. Hormone-Induced Sexual Cycles of Flagellates. XIII. Unusual Behavior of Gametes and Centrioles of *Barbulanympha*. *Journal of Morphology*, 97: 511-542 (Nov. 1955).
- Cleveland, L. R., and W. L. Nutting. Suppression of Sexual Cycles and Death of the Protozoa of *Cryptocercus* Resulting from Change of Hosts during Molting Period. *Journal of Experimental Zoology*, 130: 485-513 (Dec. 1955).
- Nutting, W. L. Extirpation of Roach Prothoracic Glands. *Science*, 122: 30-31 (July 1955).
- HARVARD UNIVERSITY, K. V. THIMANN AND R. H. WETMORE  
Briggs, Winslow R., and Peter M. Ray. An Auxin Inactivation System Involving Tyrosinase. *Plant Physiology*, 31: 165-167 (Mar. 1956).
- Nitsch, J. P. Methods for the Investigation of Natural Auxins and

*Division of Biological and Medical Sciences—Continued***Regulatory Biology—Continued**

Growth Inhibitors. pp. 3-31. *In: The Chemistry and Mode of Action of Plant Growth Substances. Proceedings of a Symposium held at Wye College, University of London, London, England, Butterworths Scientific Publications, July 1955.*

Nitsch, J. P., and Colette Nitsch. Auxin-Dependent Growth of Excised *Helianthus Tuberosus* Tissues. I. *American Journal of Botany*, 43: 839-851 (Dec. 1956).

Nitsch, J. P., and Colette Nitsch. Studies on the Growth of Coleoptile and First Internode Sections. A New, Sensitive, Straight-Growth Test for Auxins. *Plant Physiology*, 31: 94-111 (Mar. 1956).

Nitsch, J. P., and Colette Nitsch. The Separation of Natural Plant Growth Substances by Paper Chromatography. *Beiträge zur Biologie der Pflanzen*, 31: 387-408 (1955).

Wetmore, Ralph H. VIII. Growth and Development in the Shoot System of Plants. pp. 173-190. *In: Cellular Mechanisms in Differentiation and Growth*, Princeton, N. J., Princeton University Press, 1956.

HASKINS LABORATORIES, L. PROVASOLI  
Provasoli, L., J. J. A. McLaughlin, and M. R. Droop. The Development of Artificial Media for Marine Algae. *Archiv für Mikrobiologie*, 25: 392-428 (1957).

SOUTHERN ILLINOIS UNIVERSITY, F. J. FINAMORE

Finamore, F. J. A Study of a Contaminant in Amphibian Egg Extracts Which Interferes with the Diphenylamine Reaction for Deoxyribonucleic Acid. *Experimental Cell Research*, 12: 365-372 (1957).

UNIVERSITY OF ILLINOIS, ROBERT EMERSON

Cayle, Theodore, and Robert Emerson. Effect of Wave-Length on the

Distribution of Carbon-14 in the Early Products of Photosynthesis. *Nature*, 179: 89-90 (Jan. 1957).

Emerson, Robert, Ruth Chalmers, and Carl Cederstrand. Some Factors Influencing the Long-Wave Limit of Photosynthesis. *Proceedings of the National Academy of Sciences*, 43: 133-143 (Jan. 1957).

Latimer, Paul, and Eugene Rabinowitch. Selective Scattering of Light by Pigment-Containing Plant Cells. *Journal of Chemical Physics*, 24: 480 (Feb. 1956).

Latimer, Paul, T. T. Bannister, and E. Rabinowitch. Quantum Yields of Fluorescence of Plant Pigments. *Science*, 124: 585-586 (Sept. 1956).

Punnett, Thomas. Some Properties of Algal Chloroplast Material. *Bulletin des Fermentations*, 5: 1-4 (Sept.-Oct. 1956).

UNIVERSITY OF ILLINOIS, R. S. WOLFE  
Vatter, A. E., and R. S. Wolfe. Electron Microscopy of *Gallionella Ferruginea*. *Journal of Bacteriology*, 72: 248-252 (Aug. 1956).

INDIANA UNIVERSITY, F. HAUROWITZ  
Haurowitz, F. Condensation of Proteins with Thiocyanate. *Indiana Academy of Science*, 65: 82-84 (1955).

Haurowitz, F. The Mechanism of Protein Biosynthesis. pp. 104-105. *In: Proceedings of the Third International Congress of Biochemistry*, Brussels 1955, New York, Academic Press Inc., 1956.

Haurowitz, Felix, Wallace Friedberg, Harry Walter, and Mutahhar Yenson. The Metabolic Fate of "Internally" and "Externally" Labelled Protein Antigens. *Proceedings of the International Conference on the Peaceful Uses of Atomic Energy*, Geneva, 1955, 12: 545-547 (1956).

Haurowitz, Felix, and Jack Horowitz. Condensation of  $\gamma$ -Glutamyl

*Division of Biological and Medical Sciences—Continued***Regulatory Biology—Continued**

Peptides with Thiocyanate. *Biochimica et Biophysica Acta*, 20: 574-575 (1956).

Haurowitz, Felix, Morris Zimmerman, Richard L. Hardin, Sarah G. Lisie, Jack Horowitz, Arthur Lietze, and Fahamet Bursa. Condensation of Proteins with Thiocyanate. *Journal of Biological Chemistry*, 224: 827-839 (Feb. 1957).

Walter, Harry, Felix Haurowitz, Sidney Fleischer, Arthur Lietze, Hsieh Fu Cheng, James E. Turner, and Wallace Friedberg. The Metabolic Fate of Injected Homologous Serum Protein in Rabbits. *Journal of Biological Chemistry*, 224: 107-119 (Jan. 1957).

**INDIANA UNIVERSITY, W. J. VAN WAGTENDONK**

Miller, C. A., and W. J. van Wagtendonk. The Essential Metabolites of a Strain of *Paramecium aurelia* (Stock 47.8) and a Comparison of the Growth Rate of Different Strains of *Paramecium aurelia* in Axenic Culture. *Journal of General Microbiology*, 15: 280-291 (Oct. 1956).

van Wagtendonk, W. J., B. van Tijn, R. Litman, A. Reisner, and M. L. Young. The Surface Antigens of *Paramecium aurelia*. *Journal of General Microbiology*, 15: 617-619 (Dec. 1956).

**INDIANA UNIVERSITY, E. D. WEINBERG**

Weinberg, Eugene D. Double-Gradient Agar Plates. *Science*, 125: 196 (Feb. 1957).

Weinberg, Eugene D. The Inclusion of Tetracycline-Reversing Substances in Media for Primary Isolations. *American Journal of Clinical Pathology*, 26: 1234 (Oct. 1956).

Weinberg, Eugene D. The Mutual Effects of Antimicrobial Compounds and Metallic Cations. *Bacteriological Reviews*, 21: 46-68 (Mar. 1957).

Weinberg, Eugene D. Suppression of the Antibacterial Activity in Vitro of Novobiocin by Chelating Agents and by Divalent Cations. *Antibiotics Annual*: 1056-1062 (1956-57).

**INSTITUT NATIONAL D'HYGIENE, A. L. COPLEY**

Copley, A. L. Une Microméthode Pour L'Agglutination Des Plaquettes Isolées. *Sang*; 26: 841-842 (1955).

**INSTITUTE FOR CANCER RESEARCH, SIDNEY WEINHOUSE**

Allen, A. A Study of the Effects of Growth Hormone on Fatty Acid Metabolism in Vitro. *Journal of Biological Chemistry*, 221: 333-345 (July 1956).

Allen, Arthur, Bernice Friedman, and Sidney Weinhouse. Tissue Preferences for Fatty Acid and Glucose Oxidation. *Journal of Biological Chemistry*, 212: 921-933 (Feb. 1955).

Allen, Arthur, Grace Medes, and Sidney Weinhouse. A Study of the Effects of Growth Hormone on Fatty Acid Metabolism in Vitro. *Journal of Biological Chemistry*, 221: 333-345 (July 1956).

Weinhouse, Sidney, Arthur Allen, and Ruth H. Millington. Metabolism of Neoplastic Tissue. V. Fatty Acid Oxidation in Slices of Transplanted Tumors. *Cancer Research*, 13: 367-371 (Apr.-May 1956).

**STATE UNIVERSITY OF IOWA, E. WITSCHI**

Segal, Sheldon J., and C. R. Thompson. Inhibition of Estradiol-Induced Pituitary Hypertrophy in Rats. *Proceedings of the Society for Experimental Biology and Medicine*, 91: 623-625 (1956).

**JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA, B. W. KOFT**

Koft, Bernard W., and John H. Morrison. Symbiotic Biosynthesis of Folic Acid-Like Growth Factors. *Journal of Bacteriology*, 72: 705-707 (Nov. 1956).



*Division of Biological and Medical Sciences—Continued***Regulatory Biology—Continued**

JOHNS HOPKINS UNIVERSITY, A. T. JAGENDORF

Avron, M., and A. T. Jagendorf. An Extractable Factor in Photosynthetic Phosphorylation. *Nature*, 179: 428-429 (Feb. 1957).

Avron (Abramsky), Mordhay, and Andre T. Jagendorf. A TPNH Diaphorase from Chloroplasts. *Archives of Biochemistry and Biophysics*, 65: 475-490 (Dec. 1956).

KANSAS STATE COLLEGE OF AGRICULTURE AND APPLIED SCIENCE, B. S. MILLER AND J. A. JOHNSON

Refai, F. Y., B. S. Miller, E. T. Jones, and J. E. Wolfe. The Feeding Mechanism of Hessian Fly Larvae. *Journal of Economic Entomology*, 49: 182-184 (Apr. 1956).

MASSACHUSETTS GENERAL HOSPITAL SCHOOL OF NURSING, A. LEAF

Leaf, A. On the Mechanism of Fluid Exchange of Tissues *in vitro*. *Biochemical Journal*, 62: 241-248 (1956).

Leaf, A., and A. Renshaw. The Anaerobic Active Ion Transport by Isolated Frog Skin. *Biochemical Journal*, 65: 90-93 (1957).

Leaf, Alexander, and Alan Renshaw. A Test of the "Redox" Hypothesis of Active Ion Transport. *Nature*, 178: 156-157 (July 1956).

Leaf, Alexander, and Alan Renshaw. Ion Transport and Respiration of Isolated Frog Skin. *Biochemical Journal*, 65: 82-90 (1957).

UNIVERSITY OF MINNESOTA, P. D. BOYER  
Boyer, P. D., W. W. Luchsinger, and A. B. Falcone.  $O^{18}$  and  $P^{32}$  Exchange Reactions of Mitochondria in Relation to Oxidative Phosphorylation. *Journal of Biological Chemistry*, 223: 405-421 (Nov. 1956).

Harrison, W. H., J. E. Gander, E. R. Blakley, and P. D. Boyer. Interconversions of  $\alpha$ -Tocopherol and Its

Oxidation Products. *Biochimica et Biophysica Acta*, 21: 150-158 (1956).

UNIVERSITY OF MINNESOTA, WILLIAM F. MALONEY

Gronvall, John A., and Joel G. Brunson. The Generalized Shwartzman Phenomenon in Rats. *American Medical Association Archives of Pathology*, 62: 324-334 (Oct. 1956).

NEW ENGLAND DEACONESS HOSPITAL, N. NICHOLS

Nichols, George, Jr., and Nancy Nichols. The Role of Bone in Sodium Metabolism. *Metabolism*, 5: 438-446 (July 1956).

NEW YORK MEDICAL COLLEGE, C. NEUBERG

May, A. Bioreduction of Pyridine N-Oxide. *Enzymologia*, 18: 142-144 (Mar. 1957).

NEW YORK UNIVERSITY, A. S. GORDON  
Gordon, Albert S., George J. Fruhman, and Charles D. Siegel. Endocrine Influences on Blood Formation. pp. 265-292. *In: The Leukemias; Etiology, Pathophysiology, and Treatment*, New York, Academic Press Inc., 1957.

OREGON STATE COLLEGE, V. H. CHELDELIN

Hodgson, Ernest, Vernon H. Cheldelin, and R. W. Newburgh. Substitution of Choline by Related Compounds and Further Studies on Amino Acid Requirements in Nutrition of *Phormia Regina* (Meig.). *Canadian Journal of Zoology*, 34: 527-532 (1956).

Hoskins, Dale D., Vernon H. Cheldelin, and R. W. Newburgh. Oxidative Enzyme Systems of the Honey Bee, *Apis Mellifera* L. *Journal of General Physiology*, 39: 705-713 (May 1956).

McGinnis, A. J., R. W. Newburgh, and Vernon H. Cheldelin. Nutri-

*Division of Biological and Medical Sciences—Continued***Regulatory Biology—Continued**

tional Studies on the Blowfly, *Phormia regina* (Meig.). *Journal of Nutrition*, 58: 309-323 (Mar. 1956).

McGinnis, A. J., Vernon H. Cheldelin, and R. W. Newburgh. Enzyme Studies of Various Stages of the Blowfly, *Phormia regina* (Meig.). *Archives of Biochemistry and Biophysics*, 63: 427-436 (1956).

Newburgh, R. W., and Vernon H. Cheldelin. Oxidation of Carbohydrates by the Pea Aphid, *Macrosiphum Pisi* (KLTB). *Journal of Biological Chemistry*, 214: 37-45 (May 1955).

**UNIVERSITY OF PENNSYLVANIA, J. R. BROBECK**

Brobeck, John R. Neural Basis of Hunger, Appetite, and Satiety. *Gastroenterology*, 32: 169-174 (Feb. 1957).

Brobeck, J. R. A study of the Electrical Activity of the Hypothalamic Feeding Mechanism. *Physiology*, 132: 358-364 (1956).

**UNIVERSITY OF PITTSBURGH, R. BENTLEY**

Bentley, Ronald. Mechanism for the Decarboxylation of Aconitic Acid. *Proceedings of the Chemical Society*: 20 (Jan. 1957).

**PRINCETON UNIVERSITY, W. W. SWINGLE**

Swingle, W. W., L. J. Brannick, A. F. Parlow, C. Baker, and Stephen LeBrie. Life Maintenance and Mineralocorticoid Activity of Some New Derivatives of Cortisone, Hydrocortisone and DOC. *Endocrinology*, 59: 226-232 (Aug. 1956).

**PURDUE RESEARCH FOUNDATION, H. BEEVERS**

Gibbs, Martin, and Harry Beevers. Glucose Dissimilation in the Higher Plant. Effect of Age of Tissue. *Plant Physiology*, 30: 343-347 (July 1955).

Walker, D. A., and Harry Beevers. Some Requirements for Pyruvate Oxidation by Plant Mitochondrial Preparations. *Biochemical Journal*, 62: 120-127 (1956).

**UNIVERSITY OF ROCHESTER, E. F. ADOLPH**

Hoy, P. A., and E. F. Adolph. Diuresis in Response to Hypoxia and Epinephrine in Infant Rats. *American Journal of Physiology*, 187: 32-40 (Oct. 1956).

Iampietro, P. F. Adaptations to Intraperitoneal Sucrose Solutions in the Rat. *American Journal of Physiology*, 184: 390-395 (Feb. 1956).

**RUTGERS UNIVERSITY, W. BRAUN**

Braun, Werner. Cellular Products Affecting the Establishment of Bacteria of Different Virulence. *Annals of the New York Academy of Sciences*, 66: 348-355 (Oct. 1956).

Braun, Werner, William Firshein, and Jeanne Whallon. Effects of Desoxyribonucleic Acid Breakdown Products on Bacterial Population Changes and Virulence. *Science*, 125: 445-447 (Mar. 1957).

**ST. JOHNS UNIVERSITY, D. M. LILLY**

Lilly, Daniel M., and William H. Cevallos. Chemical Supplements Promoting Growth in Carnivorous Ciliates. *Transactions of the New York Academy of Sciences*, 18: 531-539 (Apr. 1956).

Lilly, Daniel M., and S. Mark Henry. Supplementary Factors in the Nutrition of *Euplotes*. *Journal of Protozoology*, 3: 200-203 (1956).

Sterbenz, F. J. Factors Influencing Growth in Protozoa. I. Factors Influencing Abnormal Growth in Suctorian Protozoa. *Transactions of the New York Academy of Sciences*, 18: 522-540 (Apr. 1956).

## Division of Biological and Medical Sciences—Continued

## Regulatory Biology—Continued

- SYRACUSE UNIVERSITY, B. S. STRAUSS  
Strauss, Bernard S. Oxalacetic Carboxylase Deficiency of the Succinate-Requiring Mutants of *Neurospora Crassa*. *Journal of Biological Chemistry*, 225: 534-544 (Mar. 1957).
- UNIVERSITY OF TENNESSEE, D. F. HOLTMAN  
Ross, R. T., D. Frank Holtman, and R. F. Gilfillan. Alterations in the Nitrogen Excretion Pattern of Chicks Infected with *Salmonella Pullorum*. *Journal of Bacteriology*, 71: 521-524 (May 1956).
- Ross, Richard T., D. Frank Holtman, and Robert F. Gilfillan. The Need for Antibiotic Free Diets in the Experimental Infection of Animals. *Journal of the Tennessee Academy of Science*, 31: 253-255 (Oct. 1956).
- UNIVERSITY OF TEXAS, J. MEYERS  
Meyers, Jack, and Jo-Ruth Graham. The Role of Photosynthesis in the Physiology of *Ochromonas*. *Journal of Cellular and Comparative Physiology*, 47: 397-414 (June 1956).
- VANDERBILT UNIVERSITY, F. R. BLOOD  
Dodgen, C. L., and F. R. Blood. Energy Sources in the Bat. *American Journal of Physiology*, 187: 151-154 (Oct. 1956).
- WABASH COLLEGE, W. H. JOHNSON  
Johnson, Willis H., and Charles A. Miller. A Further Analysis of the Nutrition of *Paramecium*. *Journal of Protozoology*, 3: 221-226 (1956).
- Johnson, Willis H., and Charles A. Miller. The Nitrogen Requirements of *Paramecium Multimicronucleatum*. *Physiological Zoology*, 30: 106-113 (Apr. 1957).
- STATE COLLEGE OF WASHINGTON, R. E. HUNGATE  
Gutierrez, J. Experiments on the Culture and Physiology of Holotrichs from the Bovine Rumen. *Biochemical Journal*, 60: 516-522 (1955).

- Hamlin, L. J., and R. E. Hungate. Culture and Physiology of a Starch-Digesting Bacterium (*Bacteroides Amylophilus* N. Sp.) from the Bovine Rumen. *Journal of Bacteriology*, 72: 548-554 (Oct. 1956).
- Hungate, R. E. Kinetics of Microbial Activity in the Bovine Rumen. *Agricultural and Food Chemistry*, 4: 701-703 (Aug. 1956).
- Hungate, R. E. Symposium on Microbiology of the Rumen. *Bacteriological Reviews*, 19: 277-279 (Dec. 1955).
- Hungate, R. E., and I. A. Dyer. Effect of Valeric and Isovaleric Acids on Straw Utilization by Steers. *Journal of Animal Science*, 15: 484-488 (May 1956).
- Hungate, R. E., D. W. Fletcher, and I. A. Dyer. Effects of Chlortetracycline Feeding on Bovine Rumen Microorganisms. *Journal of Animal Science*, 14: 997-1002 (Nov. 1955).
- WASHINGTON UNIVERSITY, ST. LOUIS, MO., R. K. CRANE  
Crane, Robert K., and Stephen M. Krane. On the Mechanism of the Intestinal Absorption of Sugars. *Biochimica et Biophysica Acta*, 20: 568-569 (1956).
- WASHINGTON UNIVERSITY, ST. LOUIS, MO., O. H. LOWRY  
Clark, J. Howard, Jr., and LeRoy A. Pesch. Effects of Cortisone upon Liver Enzymes and Protein Synthesis. *Journal of Pharmacology and Experimental Therapeutics*, 117: 202-207 (June 1956).
- Pesch, LeRoy A. and J. Howard Clark, Jr. Organ-Specific Effects of Cortisone on Protein Synthesis in Protein Depleted Rats. *Proceedings of the Society for Experimental Biology and Medicine*, 91: 510-512 (1956).

*Division of Biological and Medical Sciences—Continued***Regulatory Biology—Continued**

WASHINGTON UNIVERSITY, ST. LOUIS, Mo., M. COHN

Cohn, Melvin. On the Inhibition by Glucose of the Induced Synthesis of  $\beta$ -Galactosidase in *Escherichia coli*. pp. 41-48. In: Henry Ford Hospital International Symposium Enzymes: Units of Biological Structure and Function, New York, Academic Press, Inc., 1956.

WEST VIRGINIA UNIVERSITY, H. L. BARNETT

Barnett, H. L., V. G. Lilly, and C. R. Berry. Parasitism by Fungi. Science Serves Your Farm Journal: 5+ (1956).

Nichols, Nancy, Pierre Moinat, and Elizabeth F. Tuller. Changes in Serum Proteins and Polysaccharides in Rats with Uncontrolled Diabetes. Diabetes, 5: 468-474 (Dec. 1956).

WESTERN RESERVE UNIVERSITY, M. N. MACINTYRE

Macintyre, M. Neil. Effect of the Testis on Ovarian Differentiation in Heterosexual Embryonic Rat Gonad Transplants. Anatomical Record, 124: 27-45 (Jan. 1956).

WESTERN RESERVE UNIVERSITY, E. W. SUTHERLAND

Sutherland, Earl W., and Walter D. Wosilait. The Relationship of Epinephrine and Glucagon to Liver Phosphorylase. I. Liver Phosphorylase; Preparation and Properties. Journal of Biological Chemistry, 218: 459-495 (Jan. 1956).

UNIVERSITY OF WISCONSIN, G. W. KEITT Boone, D. M., and G. W. Keitt. *Venturia Inaequalis* (Cke.) Wint. VIII. Inheritance of Color Mutant Characters. American Journal of Botany, 43: 226-233 (Mar. 1956).

Boone, D. M., J. F. Stauffer, M. A. Stahmann, and G. W. Keitt. *Venturia Inaequalis* (Cke.) Wint. VII. Induction of Mutants for Studies on

Genetics, Nutrition, and Pathogenicity. American Journal of Botany, 43: 199-204 (Mar. 1956).

Keitt, G. W., and D. M. Boone. Experimental Genetic and Nutritional Controls of Pathogenicity of *Venturia inaequalis*. pp. 125-129. In: Therapy of Fungus Diseases, International Symposium. Presented June 23, 24, 25, 1955, by the Division of Dermatology, Department of Medicine, School of Medicine and Medical Extension, University Extension, University of California at Los Angeles, Boston, Mass., Little, Brown & Co., 1955.

Leben, Curt, D. M. Boone, and G. W. Keitt. *Venturia Inaequalis* (Cke.) Wint. IX. Search for Mutants Resistant to Fungicides. Phytopathology, 45: 467-472 (Sept. 1955).

UNIVERSITY OF WISCONSIN, J. T. MEDLER AND S. D. BECK.

Scheel, Carl A., Stanley D. Beck, and John T. Medler. Nutrition of Plant-Sucking Hemiptera. Science, 125: 444-445 (Mar. 1957).

UNIVERSITY OF WISCONSIN, J. W. WILLIAMS

Webber, Russell V., Sedimentation Coefficient Determinations with Some Sugars and Dextrins. Journal of the American Chemical Society, 78: 536-541 (Feb. 1956).

WOODS HOLE OCEANOGRAPHIC INSTITUTION, P. F. SCHOLANDER

Scholander, P. F. Observations on the Gas Gland in Living Fish. Journal of Cellular and Comparative Physiology, 48: 523-528 (Dec. 1956).

Scholander, P. F., and L. van Dam. Micro Gasometric Determination of Oxygen in Fish Blood. Journal of Cellular and Comparative Physiology, 48: 529-532 (Dec. 1956).

Scholander, P. F., L. van Dam, and Theodore Enns. Secretion of Inert

## Division of Biological and Medical Sciences—Continued

## Regulatory Biology—Continued

Gases and Oxygen by the Swimbladder of Fishes. *Biological Bulletin*, 109: 338-339 (Dec. 1955).

Scholander, P. F., L. van Dam, and Theodore Enns. The Source of Oxygen Secreted into the Swimbladder of Cod. *Journal of Cellular and Comparative Physiology*, 48: 517-522 (Dec. 1956).

## WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY, R. I. DORFMAN

Burstein, Shlomo. Extraction of  $C_{21}O_5$  and  $C_{21}O_6$  Steroids from Aqueous Media. *Science*, 124: 1030 (Nov. 1956).

Koritz, Seymour B., and Ralph I. Dorfman. Studies on the Inhibition by Deoxycorticosterone of the *In Vitro* Incorporation of Glycine- $1-C^{14}$  into the Proteins of Reticulocytes. *Archives of Biochemistry and Biophysics*, 65: 491-499 (Dec. 1956).

Péron, Fernand G., and Ralph I. Dorfman. Steroids of Guinea Pig Urine. *Journal of Biological Chemistry*, 223: 877-883 (Dec. 1956).

## YALE UNIVERSITY, M. FOSTER.

Foster, M. Inherited Variations in the Pigmentary Metabolism of Mouse Skin. *Genetics*, 41: 643 (1956).

Foster, Morris. Enzymatic Studies of the Physiological Genetics of Guinea Pig Coat Coloration. I. Oxygen Consumption Studies. *Genetics*, 41: 396-409 (May 1956).

Foster, Morris, Robinson Cook, Jr., and Theodore A. Stamas. *In Vitro* Studies of the Effects of Melanocyte Population Density on Melanin Formation. *Journal of Experimental Zoology*, 132: 1-23 (June 1956).

## YALE UNIVERSITY, G. E. PICKFORD

Pickford, Grace E. Melanogenesis in *Fundulus Heteroclitus*. *Anatomical Record*, 125: 603-604 (July 1956).

## Systematic Biology

## ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, J. A. G. REHN

Rehn, James A. G., and Harold J. Grant, Jr. A Review of the Genus *Neotettix* (Orthoptera; Acridoidea; Tetrigidae). *Transactions of the American Entomological Society*, 82: 217-250 (Jan. 1957).

Rehn, James A. G., and Harold J. Grant, Jr. An Analysis of *Tetrix Arenosa* (Orthoptera; Acridoidea; Tetrigidae). *Transactions of the American Entomological Society*, 82: 117-145 (Dec. 1956).

Rehn, James A. G., and Harold J. Grant, Jr. The Components of *Tetrix Ornata* (Orthoptera; Acridoidea; Tetrigidae). *Proceedings of the Academy of Natural Sciences of Philadelphia*, 108: 117-153 (1956).

Rehn, James A. G., and Harold J. Grant, Jr. On *Tetrix Brunneri* and a New Species of *Tetrix* from California (Orthoptera; Acridoidea; Tetrigidae). *Proceedings of the Academy of Natural Sciences of Philadelphia*, 108: 97-115 (1956).

## ALLEGHENY COLLEGE, R. E. BUGBEE

Bugbee, Robert E. Four New Species of the Genus *Eurytoma* from Galls on Hackberry. *Journal of the Kansas Entomological Society*, 30: 45-50 (Apr. 1957).

Bugbee, Robert E. Synonymy, New Combinations and Nomina Nuda in the Genus *Eurytoma* Illiger (Chalcidoidea: Hymenoptera). *Annals Entomological Society of America*, 49: 503-506 (Sept. 1956).

## BERNICE P. BISHOP MUSEUM, J. L. GRESSITT

Bohart, Richard M. Insects of Micronesia Diptera: Culicidae. *Bernice P. Bishop Museum, Insects of Micronesia*, v. 12, No. 1, 1956, 85 pp.

*Division of Biological and Medical Sciences—Continued***Systematic Biology—Continued**

Carvalho, José C. M. Insects of Micronesia Heteroptera: Miridae. Bernice P. Bishop Museum, Insects of Micronesia, v. 7, No. 1, 1956, 100 pp.

Drake, Carl J. Insects of Micronesia Hemiptera: Tingidae. Bernice P. Bishop Museum, Insects of Micronesia, v. 7, No. 2, 1956, 15 pp.

Essig, E. O. Insects of Micronesia Homoptera: Aphididae. Bernice P. Bishop Museum, Insects of Micronesia, v. 6, No. 2, 1956, 22 pp.

Fennah, R. G. Insects of Micronesia Homoptera: Fulgoroidea. Bernice P. Bishop Museum, Insects of Micronesia, v. 6, No. 3, 1956, 172 pp.

Gressitt, J. L. Entomological Investigations in New Guinea Mountains. Proceedings, Hawaiian Entomological Society, 16: 47-69 (July 1956).

Gressitt, J. Linsley. Insects of Micronesia Coleoptera: Cerambycidae. Bernice P. Bishop Museum, Insects of Micronesia, v. 17, No. 2, 1956, 117 pp.

Gressitt, J. Linsley. Some Distribution Patterns of Pacific Island Fauna. Systematic Zoology, 5: 11-33+ (Mar. 1956).

Hardy, D. Elmo. Insects of Micronesia Diptera: Bibionidae and Scatopsidae. Bernice P. Bishop Museum, Insects of Micronesia, v. 12, No. 2, 1956, 13 pp.

Hardy, D. Elmo. Insects of Micronesia Diptera: Dorilaidae (Pipunculidae). Bernice P. Bishop Museum, Insects of Micronesia, v. 13, No. 1, 1956, 9 pp.

Hardy, D. Elmo, and Marian Adachi. Insects of Micronesia Diptera: Tephritidae. Bernice P. Bishop Museum, Insects of Micronesia, v. 14, No. 1, 1956, 28 pp.

Sabrosky, Curtis W., and D. Elmo Hardy. Insects of Micronesia Diptera: Asteciidae and Coelopidae. Bernice P. Bishop Museum, Insects of Micronesia, v. 14, No. 2, 1956, 17 pp.

Takahashi, Ryoichi. Insects of Micronesia Homoptera: Aleyrodidae. Bernice P. Bishop Museum, Insects of Micronesia, v. 6, No. 1, 1956, 13 pp.

UNIVERSITY OF SOUTHERN CALIFORNIA,  
J. S. GARTH

Haig, Janet. Four New Porcelain Crabs from the Eastern Pacific. Bulletin, Southern California Academy of Sciences, 56: 31-41 (1957).

Haig, Janet. Notes on Two Anomuran Crustaceans New to California Waters. Bulletin, Southern California Academy of Sciences, 55: 79-82 (1956).

COLORADO AGRICULTURAL AND MECHANICAL COLLEGE, T. A. WOOLLEY

Woolley, Tyler A. Redescription of *Tumidulus Americana* Ewing and *Hypochthonius Crosbyi* Ewing. Proceedings of the Entomological Society of Washington, 58: 287-291 (Oct. 1956).

DUKE UNIVERSITY, L. E. ANDERSON

Anderson, Lewis E., and Virginia S. Bryan. A Cyto-Taxonomic Investigation of *Fissidens Cristatus* Wils. and *F. adiantoides* Hedw. in North America. Revue Bryologique et Lichénologique, 25: 254-267 (1956).

DUKE UNIVERSITY, T. W. JOHNSON, JR.

Johnson, T. W., Jr., Ascus Development and Spore Discharge in *Leptosphaeria Discors*, a Marine and Brackish-Water Fungus. Bulletin of Marine Science of the Gulf and Caribbean, 6: 349-358 (Dec. 1956).

DUKE UNIVERSITY, R. M. SCHUSTER

Schuster, R. M. *Aphanolejeunea Cornutissima* Nom. Nov. Bryologist, 59: 217-218 (Sept. 1956).

*Division of Biological and Medical Sciences—Continued***Systematic Biology—Continued**

Schuster, R. M. Dr. Karl Müller—An Appreciation. *Bryologist*, 58: 311–316 (1955).

Schuster, R. M. Notes on Nearctic Hepaticae. VIII. Lejeuneaceae Holostipae of North America. *Journal of the Elisha Mitchell Scientific Society*, 70: 42–56 (June 1954).

Schuster, R. M. Notes on Nearctic Hepaticae. X. A Study of *Cephaloziella Rhizantha*, *C. Floridae* and *C. Ludoviciana*. *Bryologist*, 59: 130–140 (June 1956).

Schuster, R. M., and H. L. Blomquist. A Comparative Study of *Telaranema* Nematodes. *American Journal of Botany*, 42: 588–593 (July 1955).

Schuster, R. M., and Sinske Hattori. The Oil-Bodies of the Hepaticae. II. The Lejeuneaceae. *Journal of the Hattori Botanical Laboratory*, No. 11, 11–86 (Apr. 1954).

Schuster, Rudolf M. Karl Müller: Die Lebermoose Europas in Rabenhorst's *Kryptogamen-Flora*, VI. *Bryologist*, 59: 51–56 (Mar. 1956).

Schuster, Rudolf M. North American Lejeuneaceae. 1. Introduction; Keys to Subfamilies and Genera. *Journal of the Elisha Mitchell Scientific Society*, 71: 106–126 (May 1955).

Schuster, Rudolf M. North American Lejeuneaceae. II. Paradoxae: The Genera *Aphanolejeunea* and *Leptocolea*. *Journal of the Elisha Mitchell Scientific Society*, 71: 126–148 (May 1955).

Schuster, Rudolf M. North American Lejeuneaceae. III. Paradoxae: *Cololejeunea*, *Sectio Minutissimae*. *Journal of the Elisha Mitchell Scientific Society*, 71: 218–247 (Nov. 1955).

Schuster, Rudolf M. North American Lejeuneaceae. IV. Paradoxae: *Cololejeunea* (Concl.), *Diplasiolejeunea*. *Journal of the Elisha Mitchell Scientific Society*, 72: 87–125 (May 1956).

Schuster, Rudolf M. North American Lejeuneaceae. V. Schizostipae: *Ceratolejeunea*. *Journal of the Elisha Mitchell Scientific Society*, 72: 292–316 (Nov. 1956).

Schuster, Rudolf M. Notes on Nearctic Hepaticae. IX. The Relationships of the Genus *Gyrothyra*. *Bryologist*, 58: 137–141 (June 1955).

UNIVERSITY OF FLORIDA, P. H. ALLEN

Allen, Paul H. *The Rain Forests of Golfo Dulce*. 417 pp. St. Augustine, Fla., Record Press, Inc., 1956.

UNIVERSITY OF FLORIDA, J. C. DICKINSON, Jr.

Clench, William J., and Ruth D. Turner. *Freshwater Mollusks of Alabama, Georgia, and Florida from the Escambia to the Suwannee River*. *Bulletin of the Florida State Museum*, 1: 97–239 (Sept. 1956).

DICKINSON, J. D. *The Flint-Chat-tahoochee-Apalachicola Region and Its Environments*. *Bulletin of the Florida State Museum*, 1: 1–72 (Sept. 1956).

F. HARPER

Harper, Francis. *Amphibians and Reptiles of the Ungava Peninsula*. *Proceedings of the Biological Society of Washington*, 69: 93–104 (Sept. 1956).

Harper, Francis. *The Mammals of Keewatin*. 94 pp. Lawrence, Kans. The World Co., 1956.

UNIVERSITY OF HAWAII, A. H. BANNER

Banner, Albert H. *Contributions to the Knowledge of the Alpheid Shrimp of the Pacific Ocean. Part I. Collections from the Mariana Archipelago*. *Pacific Science*, 10: 318–373 (July 1956).

*Division of Biological and Medical Sciences—Continued***Systematic Biology—Continued**

Banner, Albert H. Contributions to the Knowledge of the Alpheid Shrimp of the Pacific Ocean. Part II. Collection from Arno Atoll, Marshall Islands. *Pacific Science*, 11: 190-206 (Apr. 1957).

## UNIVERSITY OF ILLINOIS, P. C. SILVA

Silva, Paul C. Notes on Pacific Marine Algae. *Madroño*, 14: 41-51 (Apr. 1957).

## UNIVERSITY OF KANSAS, E. R. HALL

Anderson, Sydney. An additional Record of *Mustela Erminea* from Utah. *Journal of Mammalogy*, 36: 568 (Nov. 1955).

Anderson, Sydney. Extensions of Known Ranges of Mexican Bats. *University of Kansas Publications, Museum of Natural History*, 9: 347-351 (Aug. 1956).

Anderson, Sydney. Small Mammals from Gilliam County, Oregon. *Murrelet*, 36: 26-27 (Aug. 1955).

Anderson, Sydney. Subspeciation in the Meadow Mouse, *Microtus pennsylvanicus*, in Wyoming, Colorado, and Adjacent Areas. *University of Kansas Publication, Museum of Natural History*, 9: 85-104 (May 1956).

Baker, Rollin H. A New Cottontail (*Sylvilagus floridanus*) from Northeastern Mexico. *University of Kansas Publications, Museum of Natural History*, 7: 609-612 (Apr. 1955).

Baker, Rollin H. A New Species of Bat (Genus *Myotis*) from Coahuila, México. *Proceedings of the Biological Society of Washington*, 68: 165-166 (Dec. 1955).

Baker, Rollin H. *Eumops Underwoodi Sonoriensis* in Arizona. *Journal of Mammalogy*, 37: 111-112 (Feb. 1956).

Baker, Rollin H. Mammals of Coahuila, Mexico. *University of Kansas*

*Publications, Museum of Natural History*, 9: 125-335 (June 1956).

Baker, Rollin H., and Villa R. Bernardo. Mamíferos Registrados por Primera Vez en el Estado de Hidalgo. *Revista de la Sociedad Mexicana de Historia Natural*, 14: 149-50 (Dec. 1953).

Baker, Rollin H., and Robert W. Dickerman. Daytime Roost of the Yellow Bat in Veracruz. *Journal of Mammalogy*, 37: 443 (Aug. 1956).

Baker, Rollin H., and Howard J. Stains. A New Long-Eared *Myotis* (*Myotis evotis*) from Northeastern México. *University of Kansas Publications, Museum of Natural History*, 9: 81-84 (Dec. 1955).

Findley, James S. Speciation of the Wandering Shrew. *University of Kansas Publications, Museum of Natural History*, 9: 1-68 (Dec. 1955).

Findley, James S. Taxonomy and Distribution of Some American Shrews. *University of Kansas Publications, Museum of Natural History*, 7: 613-618 (June 1955).

Findley, James S., and Sydney Anderson. Zoogeography of the Montane Mammals of Colorado. *Journal of Mammalogy*, 37: 80-82 (Feb. 1956).

Findley, James S., and J. Knox Jones, Jr. Molt of the Short-Tailed Shrew, *Blarina brevicauda*. *American Midland Naturalist*, 56: 246-249 (July 1956).

Hall, E. Raymond. Mammalogy—A New Subspecies of Wood Rat from Nayarit, Mexico, with New Name-Combinations for the *Neotoma Mexicana* Group. *Journal of the Washington Academy of Sciences*, 45: 328-332 (Oct. 1955).

Hall, E. Raymond. Nuevos Murciélagos para la Fauna Mexicana. *Acta Zoologica Mexicana*, 1: 1-2 (Sept. 1955).



*Division of Biological and Medical Sciences—Continued***Systematic Biology—Continued**

Hall, E. Raymond. Suggestions for Collecting and Preparing Study Specimens of Vertebrates. pp. 255-287. In: Handbook of Mammals of Kansas, Lawrence, Kans., University of Kansas Museum of Natural History, 1955.

Jones, J. Knox, Jr., and Robert L. Packard. *Feresa Intermedia* (Gray) Preoccupied. Proceedings of the Biological Society of Washington, 69: 167-168 (Dec. 1956).

Rodeck, Hugo G., and Sydney Anderson. *Sorex Merriami* and *Microtus Mexicanus* in Colorado. Journal of Mammalogy, 37: 436 (Aug. 1956).

Russell, Robert J. A New Species of Pocket Gopher (Genus *Pappogeomys*) from Jalisco, México. University of Kansas Publications, Museum of Natural History, 9: 357-361 (Jan. 1957).

Russell, Robert J. *Artibeus Lituratus* in Morelos, Mexico. Journal of Mammalogy, 37: 283-284 (May 1956).

Russell, Robert J., and Sydney Anderson. Small Mammals from Silver Bow County, Montana. Murrelet, 37: 2-3 (Jan.-Apr. 1956).

Russell, Robert J., and Rollin H. Baker. Geographic Variation in the Pocket Gopher, *Cratogeomys castanops*, in Coahuila, México. University of Kansas Publications, Museum of Natural History, 7: 591-608 (Mar. 1955).

Russell, Robert J., and J. Knox Jones, Jr. The Taxonomic Status of *Geomys Bursarius Vinaceus* Swenk. Transactions of the Kansas Academy of Science, 58: 512-513 (Jan. 1956).

Stains, Howard J. A New Bat (Genus *Leptonycteris*) from Coahuila. University of Kansas Publica-

tions, Museum of Natural History, 9: 353-356 (Jan. 1956).

UNIVERSITY OF NEW HAMPSHIRE, M. H. PETTIBONE

Pettibone, Marian H. Zoology: Some Polychaete Worms of the Families Hesionidae, Syllidae, and Nereidae from the East Coast of North America, West Indies, and Gulf of Mexico. Journal of the Washington Academy of Sciences, 46: 281-294 (Sept. 1956).

COLLEGE OF NEW ROCHELLE, M. D. ROGICK

Rogick, Mary. Studies on Marine Bryozoa. VIII. *Exochella Longirostris* Jullien 1888. Biological Bulletin, 3: 123-128 (Aug. 1956).

Rogick, Mary D. Studies on Marine Bryozoa. IX. *Phylactellipora*. Ohio Journal of Science, 57: 1-9 (Jan. 1957).

Rogick, Mary Dora. Studies on Marine Bryozoa. X. *Hippadenella Carsonae*, N. SP. Biological Bulletin, 112: 120-131 (Feb. 1957).

NEW YORK BOTANICAL GARDEN, O. DEGENER.

Degener and Degener. Flora Hawaiiensis, 50 looseleaf pages (1957).

NEW YORK BOTANICAL GARDEN, B. MAGUIRE

Carlquist, Sherwin. Anatomy of Guayana Mutisieae. Memoirs of the New York Botanical Garden, 9: 441-476 (May 1957).

Maguire, Bassett, Julian A. Steyermark, and John J. Wurdack. Botany of the Chimantá Massif—I. Gran Sabana, Venezuela. Memoirs of the New York Botanical Garden, 9: 393-440 (May 1957).

Maguire, Bassett, and John J. Wurdack. The Botany of the Guayana Highland. Part II. Memoirs of the New York Botanical Gardens, 9: 235-392 (May 1957).

*Division of Biological and Medical Sciences—Continued***Systematic Biology—Continued**

Maguire, Bassett, and John J. Wurdack. Botany of the Phelps' Venezuelan Guayana Expeditions—II. Uaipan-Tepui, Estado Bolivar. *Memoirs of the New York Botanical Garden*, 9: 477-484 (May 1957).

NEW YORK ZOOLOGICAL SOCIETY, J. CRANE

Crane, Jocelyn. In *Malaya Looking for Clues to Evolution*. *Animal Kingdom*, 59: 130-136 (Oct. 1956).

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING, C. F. SMITH

Metcalf, Z. P. Fascicle IV. Fulgoroidea. Part 18. Eurybrachidae and Gengidae. 80 pp. *General Catalogue of the Homoptera*, Raleigh, North Carolina, North Carolina State College, 1956.

POMONA COLLEGE, L. BENSON

Benson, Lyman. The *Opuntia Pulchella* Complex. *Cactus and Succulent Journal*, 29: 19-21 (Jan.-Feb. 1957).

ROOSEVELT COLLEGE, C. H. SEEVERS

Seevers, Charles H. A Monograph on the Termitophilous Staphylinidae (coleoptera). *Fieldiana: Zoology*, 40: 1-334 (Apr. 1957).

Seevers, Charles H. A Revision of the Tribe Amblyopinini: Staphylinid Beetles Parasitic on Mammals. *Fieldiana: Zoology*, 37: 211-264 (June 1955).

SMITHSONIAN INSTITUTION, J. CUATRECASAS

Cuatrecasas, José. *Moráceas Nuevas de Colombia*. *Caldasia*, 7: 287-304 (1956).

Cuatrecasas, José, and Leandro Aris-teguieta. El Genero *Hinterhubera* Weddell. *Boletin de la Sociedad Venezolana de Ciencias Naturales*, 17: 98-104 (1956).

Cuatrecasas, José. *Notas a la Flora de Venezuela*. *Boletin de la Sociedad*

*Venezolana de Ciencias Naturales*, 17: 80-97 (1956).

SMITHSONIAN INSTITUTION, F. A. McCLURE

McClure, F. A. New Species in the Bamboo Genus *Phyllostachys* and Some Nomenclatural Notes. *Journal of the Arnold Arboretum*, 37: 180-196 (Apr. 1956).

SMITHSONIAN INSTITUTION, A. C. SMITH  
Bartram, Edwin B. Additional Fijian Mosses, III. *Journal of the Washington Academy of Sciences*, 46: 392-396 (Dec. 1956).

Yuncker, T. G. Additions to the Fijian Species of *Peperomia*. *Bulletin of the Torrey Botanical Club*, 83: 300-304 (July 1956).

SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY, J. R. MACDONALD

Macdonald, J. R. The North American Anthracotheres. *Journal of Paleontology*, 30: 615-645 (May 1956).

Macdonald, J. R., and C. Bertrand Schultz. *Arretotherium Fricki*, a New Miocene Anthracothere from Nebraska. *Bulletin of the University of Nebraska State Museum*, 4: 53-58 (May 1956).

SWARTHMORE COLLEGE, N. A. WEBER

Weber, Neal A. Fungus-Growing Ants and Their Fungi: *Trachymyrmex Septentrionalis*. *Ecology*, 37: 150-161 (Jan. 1956).

Weber, Neal A. Fungus-Growing Ants and Their Fungi: *Trachymyrmex Septentrionalis* Seminole. *Ecology*, 37: 197-199 (Jan. 1956).

UNIVERSITY OF TENNESSEE, A. J. SHARP  
Sharp, A. J. Elements in the Tennessee Flora with Tropical Relationships. *Journal of the Tennessee Academy of Science*, 30: 53-56 (Jan. 1955).

Sharp, A. J. Preliminary Keys to the Genera and Species of Tennessee

*Division of Biological and Medical Sciences—Continued***Systematic Biology—Continued**

Ferns. *Journal of the Tennessee Academy of Science*, 30: 86–89 (Apr. 1955).

**UNIVERSITY OF TEXAS, C. HUBBS**

Hubbs, Clark. *Gambusia Heterochir*, a New Pocciliid Fish from Texas, with an Account of Its Hybridization with *G. Affinis*. *Tulane Studies in Zoology*, 5: 1–16 (Mar. 1957).

Hubbs, Clark. Relative Variability of Hybrids between the Minnows, *Notropis lepidus* and *N. proserpinus*. *Texas Journal of Science*, 8: 463–469 (Dec. 1956).

Hubbs, Clark, and William H. Brown. *Dionda Diaboli* (Cyprinidae), a New Minnow from Texas. *Southwest Naturalist*, 1: 69–77 (Apr. 1956).

Hubbs, Clark, and Kirk Strawn. Interfertility between Two Sympatric Fishes, *Notropis Lutrensis* and *Notropis Venustus*. *Evolution*, 10: 341–344 (Dec. 1956).

**TULANE UNIVERSITY, G. H. PENN**

Penn, George Henry. A New Crawfish of the Genus *Procambarus* from Arkansas (Crustacea, Astacidae). *Lloydia*, 19: 109–119 (June 1956).

**TULANE UNIVERSITY, E. P. VOLPE**

Volpe, E. Peter. Embryonic Temperature Tolerance and Rate of Development in *Bufo Valliceps*. *Physiological Zoölogy*, 30: 164–176 (Apr. 1957).

Volpe, E. Peter. Experimental F<sub>1</sub> Hybrids between *Bufo Valliceps* and *Bufo Fowleri*. *Tulane Studies in Zoölogy*, 4: 61–75 (Sept. 1956).

Volpe, E. Peter. Hybrid Incompatibility between *Bufo Valliceps* and *Bufo Fowleri*. *Anatomical Record*, 125: 648–649 (July 1956).

**UNIVERSITY OF UTAH, S. D. DURRANT**

Durrant, Stephen D. and M. Raymond Lee. A New Pocket Mouse from Southeastern Utah. *Proceedings of the Biological Society of Washington*, 69: 183–186 (Dec. 1956).

Durrant, Stephen D., and M. Raymond Lee. Rare Shrews from Utah and Wyoming. *Journal of Mammalogy*, 36: 560–561 (Nov. 1955).

Durrant, Stephen D., M. Raymond Lee, and Richard M. Hansen. Additional Records and Extensions of Known Ranges of Mammals from Utah. *University of Kansas Publications, Museum of Natural History*, 9: 69–80 (Dec. 1955).

**STATE COLLEGE OF WASHINGTON, G. W. FISCHER**

Duran, Ruben, and George W. Fischer. Further Studies on the Synonymy and Host Range of the Dwarf Bunt Fungus, *Tilletia Contraversa*. *Research Studies, State College of Washington*, 24: 259–266 (Dec. 1956).

Fischer, George W. The Species of *Tilletia* on Rye. *Research Studies, State College of Washington*, 24: 275–290 (1956).

Fischer, George W., and Ruben Duran. Some New Distribution and Early Incidence Records of Dwarf Bunt of Wheat and Rye. *Research Studies, State College of Washington*, 24: 267–274 (1956).

**STATE COLLEGE OF WASHINGTON, K. E. FRICK**

Frick, Kenneth E. Revision of the North American *Calycomyza* Species North of Mexico Phytobia: (Agromyzidae Diptera). *Annals of the Entomological Society of America*, 49: 284–300 (May 1956).

*Division of Mathematical, Physical, and Engineering Sciences***Astronomy****UNIVERSITY OF CALIFORNIA, BERKELEY,  
MERLE WALKER**

Walker, Merle F. Studies of Extremely Young Clusters I. NGC 2264. *Astrophysical Journal Supplement Series*, 2: 365-388 (Oct. 1956).

Walker, Merle F. The Light Variability of 15 Canis Majoris. *Publications of the Astronomical Society of the Pacific*, 68: 154-157 (Apr. 1956).

**UNIVERSITY OF CHICAGO, W. A. HILTNER**

Hiltner, W. A. Photometric Polarization and Spectrographic Observations of O and B Stars. *Astrophysical Journal Supplement Series*, 2: 389-462 (Oct. 1956).

Hiltner, W. A. Polarization of the Crab Nebula. *Astrophysical Journal*, 125: 300-304 (1957).

Hiltner, W. A., and H. L. Johnson. The Law of Interstellar Reddening and Absorption. *Astrophysical Journal*, 124: 367-378 (1956).

Hiltner, W. A., and Braulio Iriarte. Photometric and Spectroscopic Studies of Early-Type Stars Between Galactic Longitude  $l=338^\circ$  and  $l=33^\circ$ . *Astrophysical Journal*, 122: 185-189 (1955).

Johnson, H. L., and W. A. Hiltner. Observational Confirmation of a Theory of Stellar Evolution. *Astrophysical Journal*, 123: 267-277 (1956).

**DOMINION ASTRO-PHYSICAL OBSERVATORY VICTORIA, BRITISH COLUMBIA, CANADA. R. M. PETRIE**

Proceedings of the National Science Foundation Conference on Binary Stars. *Journal of the Royal Astronomical Society of Canada*, 51: 9-108 (Feb. 1957).

**HARVARD UNIVERSITY, B. J. BOK AND H. I. EWEN**

Bok, Bart J. The George R. Agassiz Radio Telescope at Harvard Observa-

tory. *Nature*, 178: 232-234 (Aug. 1956).

**HAVERFORD COLLEGE, L. C. GREEN**

Green, Louis C., Carolyn D. Chandler, and Patricia P. Rush. Ground-State Wave Functions of He<sub>1</sub> and H— Obtained by the Superposition of Central Field Functions. *Physical Review*, 104: 1593-1595 (Dec. 1956).

**UNIVERSITY OF ILLINOIS, G. C. McVITTIE**

McVittie, G. C. The Non-Adiabatic Contraction of a Gas Sphere to a Complete Polytrope. *Astronomical Journal*, 61: 451-462 (Dec. 1956).

McVittie, G. C., and M. H. Rogers. On the Spherically Symmetric Non-Adiabatic Motion of a Gas Sphere. *Astronomical Journal*, 60: 374-379 (Nov. 1955).

Rogers, M. H. The Propagation and Structure of Shock Waves of Varying Strength in a Self-Gravitating Gas Sphere. *Proceedings of Royal Society, A*, 235: 120-136 (1956).

**UNIVERSITY OF KANSAS, H. G. HORAK**

Horak, Henry G., and Robert L. Talley. The Phase Variation of Uranus. *Astrophysical Journal*, 123: 176-178 (Jan. 1956).

**UNIVERSITY OF MICHIGAN, L. H. ALLER**

Aller, L. H., G. Elste, and J. Jugaku. The Atmospheres of the B Stars. III. The Composition of Tau Scorpii. *Astrophysical Journal Supplement Series*, 3: 1-36 (Mar. 1957).

Aller, Lawrence H. Atmospheres of the B Stars. I. The Supergiant Epsilon Canis Majoris. II. The Supergiant 55 Cygni. *Astrophysical Journal*, 123: 117-138 (Jan. 1956).

Aller, Lawrence H. Chemical Compositions of Selected Planetary Nebulae. *Astrophysical Journal*, 125: 84-101 (Jan. 1957).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Astronomy—Continued**

Doherty, Lowell, Karl G. Henize, and Lawrence H. Aller. A Photometric Catalogue of Emission Nebulosities in the Large Magellanic Cloud. *Astrophysical Journal, Supplement Series, 2*: 345–500 (Sept. 1956).

Green, Louis G., Patricia P. Rush, and Carolyn D. Chandler. Oscillator Strengths and Matrix Elements for the Electric Dipole Moment for Hydrogen. *Astrophysical Journal, Supplement Series, 3*: 37–50 (Apr. 1957).

Henize, Karl G. Catalogues of the Ha-Emission Stars and Nebulae in the Magellanic Clouds. *Astrophysical Journal, Supplement Series, 2*: 315–344 (Sept. 1956).

OHIO STATE UNIVERSITY, P. C. KEENAN Keenan, P. C., and R. G. Teske. Radial Velocities of Nine S-Type Stars. *Astrophysical Journal, 124*: 499–503 (1956).

OHIO STATE UNIVERSITY, JOHN D. KRAUS Ko, H. C., and J. D. Kraus. A Radio Map of the Sky at 1.2 Meters. *Sky and Telescope, 16*: 2–4 (Feb. 1957).

Kraus, John D. Radio Telescope Designs of Large Aperture and Low Cost. *Astronomical Journal, 61*: 169 (May 1956).

Kraus, John D. Resolution, Pattern Effects, and Range of Radio Telescopes. *Institute of Radio Engineers Transactions on Antennas and Propagation, AP-4*: 445–451 (July 1956).

OHIO STATE UNIVERSITY, ARNE SLETTEBAK

Slettebak, Arne. Line Broadening in the Spectra of O- and Early B-Type Stars. *Astrophysical Journal, 124*: 173–195 (1956).

PRINCETON UNIVERSITY, M. SCHWARZCHILD

Kushwaha, R. S. The Evolution of Early Main-Sequence Stars. *Astro-*

*physical Journal, 125*: 242–259 (Jan. 1957).

Schwarzschild, M., R. Howard, and R. Härm. Inhomogeneous Stellar Models. V. A Solar Model with Convective Envelope and Inhomogeneous Interior. *Astrophysical Journal, 125*: 233–241 (Jan. 1957).

UNIVERSITY OF WISCONSIN, A. E. WHITFORD

Morgan, W. W., A. D. Code, and A. E. Whitford. Studies in Galactic Structure II. Luminosity Classification for 1270 Blue Giant Stars. *Astrophysical Journal, Supplement Series, 2*: 41–74 (July 1955).

YALE UNIVERSITY, R. WILDT

Demarcus, W. C. Model Hydrogen Atmospheres. *Mémoires Soc. R. Sc. Liège, quatrième série, 18*: 182–185 n. d.

Demarcus, W. C. Zero-Point Energy of Monatomic Crystals. *Journal of Chemical Physics, 23*: 602 (Mar. 1955).

**Chemistry**

UNIVERSITY OF ARKANSAS, E. S. AMIS

Amis, Edward S. Rates, Mechanisms, and Solvent. *Analytical Chemistry, 27*: 1672–1678 (Nov. 1955).

Amis, Edward S. The Polar Properties of Solvent and the Conductance of Electrolytes at Infinite Dilution. *Journal of Physical Chemistry, 60*: 428–430 (Apr. 1956).

UNIVERSITY OF ARKANSAS, T. C. HOERING

Hoering, T. C., R. C. Butler, and H. O. McDonald. The Oxygen Exchange between Oxy-anions and Water; Bromate and Iodate Ions. *Journal of the American Chemical Society, 78*: 4829–4831 (Oct. 1956).

BOSTON UNIVERSITY, N. N. LICHTIN

Lichtin, Norman N., and Michael J. Vignale. Ionization and Dissociation. Equilibria in Liquid Sulfur

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Chemistry—Continued**

Dioxide. V. *o*-, *m*- and *p*-Chloro and *o*-Methyl Derivatives of Triphenylchloromethane at 0.175. *Journal of the American Chemical Society*, 79: 579–583 (Feb. 1957).

UNIVERSITY OF CALIFORNIA, BERKELEY,  
W. F. GIAUQUE

Hornung, E. W., T. E. Brackett, and W. F. Giauque. The Low Temperature Heat Capacity and Entropy of Sulfuric Acid Hemihydrate. Some Observations on Sulfuric Acid "Octahydrate." *Journal of the American Chemical Society*, 78: 5747–5751 (Nov. 1956).

Cox, W. P., E. W. Hornung, and W. F. Giauque. The Spontaneous Transformation from Macrocrystalline to Microcrystalline Phases at Low Temperatures. The Heat Capacity of  $MgSO_4 \cdot 6H_2O$ . *Journal of the American Chemical Society*, 77: 3935–3938 (Aug. 1955).

Giauque, W. F., J. E. Kunzler, and E. W. Hornung. The Freezing Point Method of Determining Free Energies in a 2-Component System Forming Compounds. Concentrated Aqueous Sulfuric Acid. *Journal of the American Chemical Society*, 78: 5482–5486 (Nov. 1956).

Hornung, E. W. and W. F. Giauque. The Heat Capacities and Entropies of Sulfuric Acid Tri- and Tetrahydrates. *Journal of the American Chemical Society*, 77: 2983–2987 (June 1955).

UNIVERSITY OF CALIFORNIA, BERKELEY,  
J. N. PITTS, JR.

Pitts, James N., Jr. Relations between Molecular Structure and Photodecomposition Modes. *Journal of Chemical Education*, 34: 112–121 (Mar. 1957).

UNIVERSITY OF CALIFORNIA, DAVIS, T. L. ALLEN

Allen, Thomas L. The Vapor Pressure and Heat of Sublimation

of Chromous Iodide. The Chromium-Iodine Bond Energy in Chromous Iodide. *Journal of the American Chemical Society*, 78: 5476–5478 (Nov. 1956).

Keefe, R. M., and Thomas L. Allen. Absorption Spectra of  $I_2$  and  $I_3$  in  $CCl_4$  Solution. *Journal of Chemical Physics*, 25: 1059–1061 (Nov. 1956).

UNIVERSITY OF CALIFORNIA, DAVIS, L. J. ANDREWS AND R. M. KEEFER

Andrews, L. J. and R. M. Keefe. The Kinetics of the Zinc Chloride-Catalyzed Bromination of Polymethylbenzenes in Acetic Acid Solution. *Journal of the American Chemical Society*, 78: 4549–4553 (Sept. 1956).

Castro, C. E., and L. J. Andrews. The Stabilities of 1,3,5-Trinitrobenzene Complexes of Ortho Substituted Biphenyls. *Journal of the American Chemical Society*, 77: 5198 (1955).

Keefe, R. M., and L. J. Andrews. The Bromination of Polymethylbenzenes in Aqueous-Acetic Acid. *Journal of the American Chemical Society*, 78: 3637–3641 (Aug. 1956).

Keefe, R. M., and L. J. Andrews. The Zinc Chloride-Catalyzed Reaction of Polymethylbenzenes with Iodine Monochloride in Acetic Acid Solution. *Journal of the American Chemical Society*, 78: 5623–5627 (Nov. 1956).

Ogimachi, N., L. J. Andrews, and R. M. Keefe. The Coordination of Polyalkylbenzenes with Silver Ion. *Journal of the American Chemical Society*, 78: 2210–2213 (May 1956).

UNIVERSITY OF CALIFORNIA, LOS ANGELES, W. G. YOUNG

DeWolfe, R. H., and W. G. Young. Substitution and Rearrangement Reactions of Allylic Compounds. *Chemical Reviews*, 56: 753–901 (Aug. 1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Chemistry—Continued**

UNIVERSITY OF SOUTHERN CALIFORNIA,  
R. F. BROWN

Berson, Jerome A. A Standard of Absolute Configuration for Optically Active Biphenyls. *Journal of the American Chemical Society*, 78: 4170 (1956).

UNIVERSITY OF SOUTHERN CALIFORNIA,  
J. DONOHUE

Donohue, Jerry, and Gunther S. Stent. An Identical Duplex Structure for Polynucleotides. *Proceedings of the National Academy of Sciences*, 42: 734-736 (Oct. 1956).

CARNEGIE INSTITUTE OF TECHNOLOGY,  
P. FUGASSI

Orning, A. A., and B. Greifer. Infra-Red Spectrum of the Solid Distillate from High Vacuum Pyrolysis of a Bituminous Coal. *Fuel*, 35: 381-383 (July 1956).

UNIVERSITY OF CHICAGO, H. C. UREY

Donn, Bertram, and Harold C. Urey. On the Mechanism of Comet Outbursts and the Chemical Composition of Comets. *Astrophysical Journal*, 123: 339-342 (Mar. 1956).

UNIVERSITY OF CONNECTICUT, E. J. SLOWINSKI

Bellis, Harold E., and Emil J. Slowinski, Jr. Application of Vapor Chromatography to Infrared Spectroscopy of Liquids. *Journal of Chemical Physics*, 25: 794 (Oct. 1956).

UNIVERSITY OF DELAWARE, E. DYER

Dyer, E., Oscar A. Pickett, Jr., Sterling F. Strause, and Howard E. Worell, Jr. The Persulfate-Initiated Oxidation of Vinyl Monomers in Aqueous Solutions. *Journal of the American Chemical Society*, 78: 3384-3388 (July 1956).

DRAKE UNIVERSITY, W. H. COPPOCK

Coppock, William H. New Synthesis of Aryl Esters in Aromatic Acids. *Journal of Organic Chemistry*, 22: 325 (1957).

DUKE UNIVERSITY, C. HAUSER

Brasen, Wallace R., and Charles R. Hauser. Configurations of Diastereoisomers of 2,3-Diphenylbutyronitrile Obtained in the  $\alpha$ -Phenylethylation of Potassiophenylacetonitrile. *Journal of the American Chemical Society*, 79: 395-397 (Jan. 1957).

Brasen, Wallace R., Simon W. Kantor, Philip S. Skell, and Charles R. Hauser. Self-alkylation of  $\alpha$ -Phenylethyl Chloride to Form Isomeric Dimeric Halides and Dimeric Olefins by Amide Ion. Isomerization of *cis*- $\alpha,\alpha$ -Dimethylstilbene to *trans* Isomer. *Journal of the American Chemical Society*, 79: 397-401 (Jan. 1957).

Chambers, William J., Wallace R. Brasen, and Charles R. Hauser. Stereochemical Course in the Alkylation of Phenylacetonitrile and Phenylacetic Acid with Optically Active  $\alpha$ -Phenylethyl Chloride. *Journal of the American Chemical Society*, 79: 879-881 (Feb. 1957).

Hauser, C. R., and D. N. Van Eenam. Alicyclic Amine from Rearrangement of 2,4,6-Trimethylbenzyltrimethylammonium Ion and Its Reconversion to Aromatic System. *Journal of the American Chemical Society*, 78: 5698 (1956).

Hauser, Charles R., and Wallace R. Brasen. Alkylations of Diphenylacetonitrile with Certain Halides by Potassium Amide in Liquid Ammonia. Dehydrocyanations of Polyphenyl Nitriles to Form Olefins. *Journal of the American Chemical Society*, 78: 82-83 (Jan. 1956).

Hauser, Charles R., and William J. Chambers. Modes of Cleavage of Ethyl Benzoyl- and Ethyl Mesitoyldimethylacetate with Bases. *Journal of Organic Chemistry*, 21: 1390-1391 (Dec. 1956).

Hauser, Charles R., and William J. Chambers. The Alkylation of Ethyl

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Chemistry—Continued**

and *tert*-Butyl Acetates. *Journal of Organic Chemistry*, 21: 1524–1525 (Dec. 1956).

Hauser, Charles R., and William J. Chambers. The Alkylation of Tertiary Esters of Dialkylacetic Acids by Means of Alkali Amides. Synthesis of Trialkylacetic Acids. *Journal of the American Chemical Society*, 78: 3837–3841 (Aug. 1956).

DUQUESNE UNIVERSITY, K. C. SCHREIBER  
Schreiber, Kurt C., and Sr. Mary Claire Kennedy. Conjugation in the Naphthalene System. I. Acidity of Nitronaphols. *Journal of the American Chemical Society*, 78: 153–155 (Jan. 1956).

Schreiber, Kurt C., and Sr. Mary Claire Kennedy. 4-Methoxyl-1-naphthalenemethanol. *Journal of Organic Chemistry*, 21: 1310 (1956).

FLORIDA STATE UNIVERSITY, E. GRUNWALD

Purlee, E. Lee, and Ernest Grunwald. The Measurement of Acid Dissociation Constants and Ion-Pair Dissociation Constants in Solvents of Intermediate Dielectric Constant. Carboxylic Acids and Their Sodium and Potassium Salts in 70% Dioxane–30% Water. *Journal of the American Chemical Society*, 79: 1372–1376 (Mar. 1957).

Purlee, E. Lee and Ernest Grunwald. The Potentiometric Measurement of Ion-Pair Dissociation Constants. HCl, NaCl and KCl in 70% Dioxane–30% Water. *Journal of the American Chemical Society*, 79: 1366–1372 (Mar. 1957).

FLORIDA STATE UNIVERSITY, W. HERZ  
Braun, B. H., Werner Herz, and K. Rabindran. The Structure of Tenu-  
lin. *Journal of the American Chemical Society*, 78: 4423–4429 (Sept. 1956).

Herz, Werner. Azulenes. VII. A Novel Rearrangement in the Synthesis of Azulenes. *Journal of the American Chemical Society*, 78: 1485–1494 (Apr. 1956).

FORDHAM UNIVERSITY, C. F. FERRARO  
AND T. S. LASZLO

Laszlo, Tibor. Some Considerations for the Selection of Materials for Containing High Temperatures. pp. 116–119. *In: Proceedings of the Symposium; High Temperature—A Tool for the Future held at Berkeley, California, June 25–27, 1956, 1956.*

Laszlo, Tibor S. Solar Furnace in High-Temperature Research. *Science*, 124: 797–800 (Oct. 1956).

GEORGIA INSTITUTE OF TECHNOLOGY, J. HINE

Hine, Jack, and Paul Langford. The Effect of Halogen Atoms on the Reactivity of Other Halogen Atoms in the Same Molecule. VII. The Reaction of  $\beta$ -Haloethyl Bromides with Sodium Hydroxide. *Journal of the American Chemical Society*, 78: 5002–5004 (Oct. 1956).

HARVARD UNIVERSITY, G. B. KISTIAKOWSKY

Kistiakowsky, G. B., and P. H. Kydd. Gaseous Detonations. IX. A Study of the Reaction Zone by Gas Density Measurements. *Journal of Chemical Physics*, 25: 824–835 (Nov. 1956).

HARVARD UNIVERSITY, F. C. UHLE

Uhle, Frederick C., and Louis S. Harris. The Synthesis of  $\alpha$ -Methylamino Acids. *Journal of the American Chemical Society*, 78: 381–384 (1956).

Uhle, Frederick C., and Louis S. Harris. The Synthesis and Cyclization of  $\alpha$ -Methylamino- $\beta$ -(4-carboxy-3-indole)-propionic Acid. *Journal of the American Chemical Society*, 79: 102–109 (Jan. 1957).



*Division of Mathematical, Physical, and Engineering Sciences—Continued***Chemistry—Continued**

ILLINOIS INSTITUTE OF TECHNOLOGY,  
S. E. WOOD

Wood, Scott E., and Oscar Sandus. The Volume of Mixing of Binary Mixtures. IV. Benzene-2,2,4-Trimethylpentane (Isooctane), *Journal of Physical Chemistry*, 60: 801-803 (June 1956).

UNIVERSITY OF ILLINOIS, J. C. BAILAR, Jr.  
Das Sarma, B., and John C. Bailar, Jr. Partial Resolution of Diamines, Amino Acids and Dicarboxylic Acids Through Coordination with Optically Active Complexes. *Journal of the American Chemical Society*, 78: 895-897 (1956).

Das Sarma, Basudeb. The Structure of Copper Monoglutamate. *Journal of the American Chemical Society*, 78: 892-894 (Mar. 1956).

INDIANA UNIVERSITY, V. J. SHINER, Jr.  
Shiner, V. J., Jr. Deuterium Isotope Rate Effects and Steric Inhibition of Hyperconjugation. *Journal of the American Chemical Society*, 78: 2653 (1956).

Shiner, V. J., Jr., and C. J. Verbanic. Solvent Effects on the Rates of Solvolysis of Some Alkylbenzhydryl Chlorides. *Journal of the American Chemical Society*, 79: 369-373 (Jan. 1957).

Shiner, V. J., Jr., and C. J. Verbanic. The Effects of Deuterium Substitution on the Rates of Organic Reactions. IV. Solvolysis of *p*-Deuteroalkyl Benzhydryl Chlorides. *Journal of the American Chemical Society*, 79: 373-375 (Jan. 1957).

KANSAS STATE COLLEGE OF AGRICULTURE  
AND APPLIED SCIENCES, S. SEARLES, Jr.

Searles, Scott, Jr., Kenneth A. Pol-lart, and Frank Block. Oxetanes. VII. Synthesis from 1,3-Diols. Reactions of Oxetanes and of 1,3-Butanediol with Hydrogen Chloride, Hydrogen Bromide and Acetyl Chloride. *Journal of the American Chemical Society*, 79: 952-956 (Feb. 1957).

Searles, Scott, Jr., Kenneth A. Pol-lart, and Eugene F. Lutz. Oxetanes, VI. Reductive Cleavage and Substituent Effects. *Journal of the American Chemical Society*, 79: 948-951 (Feb. 1957).

UNIVERSITY OF KANSAS, W. E. McEWEN  
Gudmundsen, Cathryn H., and William E. McEwen. A Kinetic Investigation of the Acid-Catalyzed Rearrangement of Benzhydryl Azides and 1,1-Diarylethyl Azides. *Journal of the American Chemical Society*, 79: 329-334 (Jan. 1957).

UNIVERSITY OF LOUISVILLE, J. P.  
PHILLIPS

Phillips, J. P. and E. M. Barrall. Betti Reactions of Some Phenols. *Journal of Organic Chemistry*, 21: 692 (1956).

Phillips, J. P., E. M. Barrall, and Richard Breesc. Some Derivatives of 8-Quinolinol. *Transactions of the Kentucky Academy of Science*, 17: 135-139 (Dec. 1956).

UNIVERSITY OF LOUISVILLE, R. H. WILEY  
Wiley, Richard H. and H. G. Ellert. 2-Pyrones. XXIV. Derivatives of  $\alpha,\beta$ -Dimethylglutaconic Anhydride. *Journal of Organic Chemistry*, 22: 330 (1957).

Wiley, Richard H. and J. G. Esterle. 2-Pyrones. XXIII. 4-Methyl-6-(2-methylpropenyl)-2-pyrone. *Journal of Organic Chemistry*, 21: 1335 (1956).

Wiley, Richard H., C. H. Jarboe, H. G. Ellert, H. Kraus, E. J. Hittinger, C. L. DeSilva, and S. C. Slaymaker. 2-Pyrones. XX. Carboxydehydroacetic Acid and Its Derivatives. *Journal of Organic Chemistry*, 21: 686-688 (June 1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Chemistry—Continued**

Wiley, Richard H., Stephen C. Slaymaker, and Harold Kraus. Dimethylhydrazones of Aliphatic Aromatic, and Heterocyclic Aldehydes and Their Infrared Absorption Characteristics. *Journal of Organic Chemistry*, 22: 204–207 (Feb. 1957).

**LOYOLA UNIVERSITY, J. L. HUSTON**

Huston, J. L. A Tracer Study of Liquid Phosgene as an Acid-Base Solvent. *Journal of Inorganic and Nuclear Chemistry*, 2: 128–134 (1956).

Huston, John L. and Charles E. Lang. Aluminium Chloride as a Solvo Acid and Friedel-Crafts Catalyst. *Journal of Inorganic Nuclear Chemistry*, 4: 30–39 (1957).

**UNIVERSITY OF MAINE, R. DUNLAP**

Vreeland, Jay and Robert Dunlap. The Ternary System: Perfluorotri-*n*-Butylamine-2,2,4-Tri-Methylpentane-Nitroethane. *Journal of Physical Chemistry*, 61: 329 (1957).

**MILLIKIN UNIVERSITY, C. WEATHERBEE**

Weatherbee, Carl, Richard Temple, and W. J. Burke. A New Approach to Tertiary  $\beta$ -Chloroalkylamines. Synthesis of  $\beta$ -Chloroalkylaminomethyl-hydroquinones. *Journal of Organic Chemistry*, 21: 1138–1141 (Oct. 1956).

**UNIVERSITY OF MINNESOTA, I. M. KOLTHOFF**

Kolthoff, I. M., and A. M. Shams El Din. Reduction of Hexavalent Chromium at the Rotated Platinum Electrode. Permeability of the Film Formed. *Journal of Physical Chemistry*, 60: 1564–1568 (Nov. 1956).

**UNIVERSITY OF NEBRASKA, N. H. CROMWELL**

Cromwell, Norman H., Roger P. Cahoy, William E. Franklin, and Gerald D. Mercer. Ethylenimine Ketones. XI. Steric Controls in the Formation of Isomeric Ethylenimine

Ketones. *Journal of the American Chemical Society*, 79: 922–926 (Feb. 1957).

Cromwell, Norman H., Kenneth E. Cook, and Paul L. Creger. Reactions of  $\beta$ -Benzoylacrylic Acid and Its Methyl Ester with Hydrazines. Absorption Spectra Studies. *Journal of the American Chemical Society*, 78: 4416–4419 (Sept. 1956).

Cromwell, Norman H., Paul L. Creger, and Kenneth E. Cook. Studies with the Amine Adducts of  $\beta$ -Benzoylacrylic Acid and its Methyl Ester. *Journal of the American Chemical Society*, 78: 4412–4416 (Sept. 1956).

Cromwell, Norman H., and Stanley J. Davis. The Chemistry of Derivatives of 2-Benzaltetralone. I. A Novel Rearrangement Leading to 2-Substituted-1-naphthols. *Journal of the American Chemical Society*, 79: 230–234 (Jan. 1957).

Mohrbacher, Richard J., and Norman H. Cromwell. Cyclopropyl Ketones. I. Synthesis and Spectra of 1-Aroyl-2-arylcyclopropanes. *Journal of the American Chemical Society*, 79: 401–408 (Jan. 1957)

**STATE UNIVERSITY OF NEW YORK, M. SZWARC**

Buckley, R. P., F. Leavitt, and M. Szwarc. Reactions of Methyl Radicals with Substrates Acting as Hydrogen Donors and as Methyl Radical Acceptors. *Journal of the American Chemical Society*, 78: 5557–5560 (Nov. 1956).

Buckley, R. P., A. Rembaum, and M. Szwarc. Methyl Affinities of Vinyl Monomers. Ethylene and Its Homologues. *Journal of Polymer Science*, 24: 135–160 (1957).

Buckley, R. P., and M. Szwarc. Methyl Affinities of Ethylene, Tetrafluoroethylene and Tetrachloroethy-

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Chemistry—Continued**

lene. *Journal of the American Chemical Society*, **78**: 5696 (1956).

Heilman, W. J., A. Rembaum, and M. Szwarc. Addition of Methyl Radicals to Substituted Benzenes. *Journal of the Chemical Society*: 1127–1130 (Mar. 1957).

Szwarc, M. The Character of Bonding of Radicals to Aromatic and Olefinic Compounds. *Journal of Physical Chemistry*, **61**: 40–45 (Jan. 1957).

Szwarc, M., and F. Leavitt. Reactivities of Twisted or Stretched C=C Double Bonds. *Journal of the American Chemical Society*, **78**: 3590–3593 (Aug. 1956).

Smid, J., A. Rembaum, and M. Szwarc. The Role of Solvents in the Decomposition of Propionyl and Butyryl Peroxides. *Journal of the American Chemical Society*, **78**: 3315–3322 (July 1956).

Smid, J., and M. Szwarc. Ethyl Affinities of Aromatic and Olefinic Compounds. *Journal of the American Chemical Society*, **78**: 3322–3325 (July 1956).

**NORTHWESTERN UNIVERSITY, FRED BASOLO**

Basolo, Fred, William R. Matoush, and Ralph G. Pearson. Mechanism of Substitution Reactions in Complex Ions. XI. Rates of Hydrolysis and Racemization of Difluoro-bis-(ethylenediamine)-cobalt (III). *Journal of the American Chemical Society*, **78**: 4883–4886 (Oct. 1956).

Matoush, William R., and Fred Basolo. Resolution and Synthesis of an Optically Active Fluoro Complex. *Recueil des Travaux Chimiques des Pays-Bas*, **75**: 580–584 (June 1956).

Matoush, William R., and Fred Basolo. Synthesis and Properties of

Some Fluoro-bis-(ethylenediamine)-cobalt (III) Complexes. *Journal of the American Chemical Society*, **78**: 3972–3976 (Aug. 1956).

**NORTHWESTERN UNIVERSITY, A. A. FROST**

Frost, Arthur A. Delta-Function Model. I. Electronic Energies of Hydrogen-Like Atoms and Diatomic Molecules. *Journal of Chemical Physics*, **25**: 1150–1154 (Dec. 1956).

Frost, Arthur A., and Frances E. Leland. Delta-Potential Function Model. II. Aromatic Hydrocarbons. *Journal of Chemical Physics*, **25**: 1154–1160 (Dec. 1956).

Frost, Arthur A., and Peter G. Lykos. Derivation of the Virial Theorem from the Generalized Hellmann-Feynman Theorem. *Journal of Chemical Physics*, **25**: 1299–1300 (Dec. 1956).

**PENNSYLVANIA STATE UNIVERSITY, J. G. ASTON AND J. EISENSTEIN**

Aston, J. G., J. J. Fritz, and S. Seki. Organic Free Radicals in the Solid State. *Journal of the American Chemical Society*, **79**: 1000 (1957).

Fritz, J. J., and H. L. Pinch. Heat Capacity and Magnetic Susceptibility of Vanadium (III) Ammonium Alum from 1.1 to 20° K. *Journal of the American Chemical Society*, **78**: 6223–6225 (Dec. 1956).

**PENNSYLVANIA STATE UNIVERSITY, N. C. DENO**

Deno, N. C., and W. L. Evans. Carbonium Ions. IV. Deuterium Experiments with Triarylmethyl Cations. *Journal of the American Chemical Society*, **78**: 582–584 (Feb. 1956).

**PRINCETON UNIVERSITY, E. C. TAYLOR, JR.**

Taylor, E. C., Jr., and Norman W. Kalenda. The Synthesis of Pymido [4,5-b] Quinolines. *Journal of the American Chemical Society*, **78**: 5108–5115 (Oct. 1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Chemistry—Continued****PURDUE RESEARCH FOUNDATION, R. A. BENKESER**

Benkeser, Robert A., and Rex B. Gosnell. The Question of Orientation in the Introduction of the Triphenylmethyl Radical into Solvent Substrates of Toluene, Chlorobenzene and Methyl Benzoate. The Tritylation of Aromatic Rings Containing Deactivating Groups. *Journal of the American Chemical Society*, 78: 4914–4916 (Oct. 1956).

**PURDUE RESEARCH FOUNDATION, H. C. BROWN**

Brown, Herbert C. Chemical Effects of Steric Strains. A Centenary Lecture Delivered at Burlington House on June 2, 1955. *Journal of the Chemical Society*: 1248–1268 (May 1956).

Brown, Herbert C. Effets stériques dans les réactions de substitutions. *Bulletin de la Société Chimique de France*, 7: 980–986 (1956).

Brown, Herbert C., and George Ham. The Effects of Ring Size on the Rate of Acetolysis of the Cycloalkyl *p*-Toluene and *p*-Bromobenzenesulfonates. *Journal of the American Chemical Society*, 78: 2735–2739 (June 1956).

Brown, Herbert C., Edward J. Mead, and B. C. Subba Rao. A Study of Solvents for Sodium Borohydride and the Effect of Solvent and the Metal Ion on Borohydride Reductions. *Journal of the American Chemical Society*, 77: 6209–6213 (Dec. 1955).

Brown, Herbert C., Ichiro Moritani, and M. Nakagawa. Steric Effects in Elimination Reactions. VI. The Effect of the Steric Requirement of the Alkyl Group on the Direction of Bimolecular Elimination. *Journal of the American Chemical Society*, 78: 2190–2193 (May 1956).

Brown, Herbert C., and M. Nakagawa. Steric Effects in Elimination Reactions. VIII. The Effect of the Steric Requirements of Pyridine Bases on the Direction of the Elimination Reaction. *Journal of the American Chemical Society*, 78: 2197–2199 (May 1956).

**TEXAS SOUTHERN UNIVERSITY, R. F. WILSON**

Wilson, Ray F., and Thornton Rhodes. Amperometric Determination of Zirconium with 1-Nitroso-2-Naphthol. *Analytical Chemistry*, 28: 1199–1200 (July 1956).

Wilson, Ray F., and Louberta E. Wilson. Interaction of Platinum Group Elements with 1,2,3-Benzotriazole. *Analytical Chemistry*, 28: 93–96 (Jan. 1956).

Wilson, Ray F., and Louberta E. Wilson. Preparation of Palladium (II) Chloride-1,2,3-Benzotriazole Coördination Compounds. *Journal of the American Chemical Society*, 77: 6204 (1955).

Wilson, Ray F., and Louberta E. Wilson. Spectrophotometric Study of Zirconyl-1-Nitroso-2-Naphthol Complexes. *Texas Journal of Science*, 7: 454–460 (Dec. 1955).

Wilson, Ray F., Louberta E. Wilson, and Lawrence J. Baye. Interaction of Palladium (II) Nitrate and of Palladium (II) Sulfate Solutions with 1,2,3-Benzotriazole. *Journal of the American Chemical Society*, 78: 2370–2371 (June 1956).

**TULANE UNIVERSITY, JOSEPH H. BOYER**

Boyer, J. H., R. Borgers, and L. T. Wolford. The Azomethine Linkage of Pyridine in Ring-Closure Isomerizations. *Journal of the American Chemical Society*, 79: 678–680 (Feb. 1957).

**UNIVERSITY OF UTAH, H. EYRING**

Eyring, H., R. S. Barker, and R. L. Snow. Energy Calculations of

## Division of Mathematical, Physical, and Engineering Sciences—Continued

## Chemistry—Continued

Multiple Hydrogen-Atom Systems by VB and MO Methods. *Journal of Chemical Physics*, 23: 1686–1689. (Sept. 1955).

Eyring, Henry, and Merrill Wallenstein. A Kinetic Treatment of Saturation and Condensation Statistics. *Proceedings of the National Academy of Sciences*, 39: 138–145 (Mar. 1953).

UNIVERSITY OF VERMONT, C. D. COOK.  
Cook, Clinton D., and Bruce E. Norcross. Oxidation of Hindered Phenols. V. The 2,6-Di-*t*-butyl-4-isopropyl and -4-*sec*-Butylphenoxy Radicals. *Journal of the American Chemical Society*, 78: 3797–3799 (Aug. 1956).

UNIVERSITY OF VIRGINIA, L. G. HEPLER.  
Belew, John S., and Loren G. Helper. Acid Dissociation and Tautomerism of 1,1-Dinitroparaffins. *Journal of the American Chemical Society*, 78: 4005–4007 (Aug. 1956).

BRIGHAM YOUNG UNIVERSITY, J. R. GOATES  
Goates, J. Rex, and Kenneth Anderson. Acidic Properties of Quartz. *Soil Science*, 81: 277–282 (Apr. 1956).

Goates, J. Rex, Kenneth H. Anderson, and Conrad P. Willis. Titration of Clay Minerals. *Soil Science*, 81: 371–378 (May 1956).

WASHINGTON UNIVERSITY, ST. LOUIS, Mo., A. C. WAHL  
Sheppard, John C., and Arthur C. Wahl. Kinetics of the Manganate-Permanganate Exchange Reaction. *Journal of the American Chemical Society*, 79: 1020–1024 (Mar. 1957).

UNIVERSITY OF WASHINGTON, SEATTLE, D. F. EGGERS, JR.  
Dudley, F. B., G. H. Cady, and D. F. Eggers, Jr. Pentafluorosulfur Hypo-

fluorite and Thionyl Tetrafluoride. *Journal of the American Chemical Society*, 78: 1553–1557 (Apr. 1956).

WAYNE UNIVERSITY, C. DJERASSI  
Djerassi, Carl, C. H. Robinson, and D. B. Thomas. Terpenoids. XXV. The Structure of the Cactus Triterpene Dumortierigenin. *Journal of the American Chemical Society*, 78: 5685–5691 (Nov. 1956).

UNIVERSITY OF WISCONSIN, C. F. CURTISS  
Curtiss, C. F. Kinetic Theory of Nonspherical Molecules. *Journal of Chemical Physics*, 24: 225–241 (Feb. 1956).

UNIVERSITY OF WISCONSIN, W. S. JOHNSON  
Johnson, William S. and Duff S. Allen, Jr. Stereochemical Control of Angular Methylation. A Stereoselective Total Synthesis of a 9,11-Dehydrosteroid. *Journal of the American Chemical Society*, 79: 1261 (1957).

Johnson, William S., David G. Martin, Raphael Pappo, Stephen D. Darling, and Robert A. Clement. A Novel Stereoselective Approach to the C/D Ring System of Steroids. *Proceedings of the Chemical Society*: 58–59 (Feb. 1957).

Johnson, William S., and others. Steroid Total Synthesis-Hydrochrysenene Approach. Parts I–X. *Journal of the American Chemical Society*, 78: 6278–6361 (Dec. 1956).

YALE UNIVERSITY, L. ONSAGER  
Donnelly, R. J., and O. Penrose. Oscillations of Liquid Helium in a U-Tube. *Physical Review*, 103: 1137–1144. (Sept. 1956).

Penrose, Oliver, and Lars Onsager. Bose-Einstein Condensation and Liquid Helium. *Physical Review*, 104: 576–584 (Nov. 1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued*

## Earth Sciences

UNIVERSITY OF CALIFORNIA, LOS ANGELES, J. KAPLAN

Frenkiel, François N. Geophysics. Possibilities and Significance of High-Speed Computing in Meteorology. *Journal of the Washington Academy of Sciences*, 46: 33-37 (Feb. 1956).

UNIVERSITY OF CALIFORNIA, LOS ANGELES, F. J. TURNER

Turner, Francis J., David T. Griggs, R. H. Clark, and Roberta H. Dixon. Deformation of Yule Marble. Part VII: Development of Oriented Fabrics at 300° C-500° C. *Bulletin of the Geological Society of America*, 67: 1259-1294 (Sept. 1956).

CARNEGIE INSTITUTE OF WASHINGTON

Vestine, E. H. Theoretical Geophysics. *Science*, 124: 234-236 (Aug. 1956).

COLUMBIA UNIVERSITY, D. B. ERICSON

Ericson, David B., Wallace S. Broecker, J. Laurence Kulp, and Goesta Wollin. Late-Pleistocene Climates and Deep-Sea Sediments. *Science*, 124: 385-389 (Aug. 1956).

Ericson, David B., and Goesta Wollin. Micropaleontological and Isotopic Determinations of Pleistocene Climates. *Micropaleontology*, 2: 257-270 (July 1956).

JOHNS HOPKINS UNIVERSITY, R. B. MONTGOMERY

Cochrane, John D. The Frequency Distribution of Surface-Water Characteristics in the Pacific Ocean. *Deep-Sea Research*, 4: 45-53 (1956).

Montgomery, R. B. Characteristics of Surface Water at Weather Ship J. *Deep-Sea Research*, 3: 331-334 (1955).

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, M. J. BUERGER

Buerger, M. J. The Arrangement of Atoms in Crystals of the Wolastonite Group of Metasilicates. *Proceedings of the National Academy*

of Sciences, 42: 113-116 (Mar. 1956).

Hahn, Theodor, and M. J. Buerger. The Detailed Structure of Nepheline,  $\text{KNa}_3\text{Al}_3\text{Si}_3\text{O}_{12}$ . *Zeitschrift für Kristallographie*, 106: 308-338 (Apr.-May 1955).

Pearson, A. David, and M. J. Buerger. Confirmation of the Crystal Structure of Pentlandite. *American Mineralogist*, 41: 804-805 (1956).

PALEONTOLOGICAL RESEARCH INSTITUTION, J. D. MCLEAN, JR.

McLean, James D., Jr. The Foraminifera of the Yorktown Formation in the York-James Peninsula of Virginia, with Notes on the Associated Mollusks. *Bulletins of American Paleontology*, 36: 261-394 (Sept. 1956).

PENNSYLVANIA STATE UNIVERSITY, R. ROY

Majumdar, A. J., and Rustum Roy. Fugacities and Free Energies of  $\text{CO}_2$  at High Pressures and Temperatures. *Geochimica et Cosmochimica Acta*, 10: 311-315 (1956).

Majumdar, A. J., and Rustum Roy. The System  $\text{CaO-Al}_2\text{O}_3\text{-H}_2\text{O}$ . *Journal of the American Ceramic Society*, 39: 434-442 (Dec. 1956).

WASHINGTON UNIVERSITY, ST. LOUIS, MO., H. N. ANDREWS, JR.

Andrews, Henry N., and Karen S. Alt. *Crocalophyton* a New Fossil Plant from the New Albany Shale, with Some Comments on the Origin of Land Vascular Plants. *Annals of the Missouri Botanical Garden*, 43: 355-378 (Nov. 1956).

UNIVERSITY OF WASHINGTON, SEATTLE, T. J. CHOW AND T. G. THOMPSON

Thompson, Thomas G., and Tsiachwa J. Chow. The Strontium-Calcium Atom Ratio in Carbonate-Secreting Marine Organisms. pp. 20-39. *In: Papers in Marine Biology and Oceanography*, London, Pergamon Press Ltd., 1956.

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Earth Sciences—Continued**

WEST VIRGINIA UNIVERSITY, MILTON  
HEALD

Heald, Milton T. Cementation of Triassic Arkoses in Connecticut and Massachusetts. *Bulletin of the Geological Society of America*, 67: 1133-1154 (Sept. 1956).

**Engineering**

UNIVERSITY OF CALIFORNIA, BERKELEY,  
E. G. THOMSEN

Creveling, J. H., T. F. Jordan, and E. G. Thomsen. Some Studies of Angle Relationships in Metal Cutting. *Transactions of the American Society of Mechanical Engineers*: 127-138 (Jan. 1957).

UNIVERSITY OF ILLINOIS, J. W. WEST-  
WATER

Perkins, A. S., and J. W. Westwater. Measurements of Bubbles Formed in Boiling Methanol. *American Institute of Chemical Engineers Journal*, 2: 471-476 (Dec. 1956).

Pramuk, F. S., and J. W. Westwater. Effect of Agitation on the Critical Temperature Difference for a Boiling Liquid. *Chemical Engineering Progress Symposium Series*, 52: 79-83 [1956].

STANFORD UNIVERSITY, KARL KLOTTER  
Klotter, Karl. How to Obtain Describing Functions for Nonlinear Feedback Systems. *Transactions of the American Society of Mechanical Engineers*: 509-512 (Apr. 1957).

STEVENS INSTITUTE OF TECHNOLOGY,  
S. F. BORG

Borg, Sidney F. Some Contributions to the Wedge-Water Entry Problem. *Proceedings of the American Society of Civil Engineers*, Paper 1214: 1-28 (May 1957).

**Mathematics**

ALABAMA POLYTECHNIC INSTITUTE, H.  
WANG

Wang, Hsien-Chung. Discrete Subgroups of Solvable Lie Groups I. *An-*

*nals of Mathematics*, 64: 1-19 (July 1956).

AMERICAN MATHEMATICAL SOCIETY

Chern, Shiing-Shen. Scientific Report on the Second Summer Institute, Part II. Complex Manifolds. *Bulletin of the American Mathematical Society*, 62: 102-117 (Mar. 1956).

Martin, W. T., S. S. Chern, and Oscar Zariski. Scientific Report on the Second Summer Institute, Several Complex Variables. *Bulletin of the American Mathematical Society*, 62: 79-141 (Mar. 1956).

BROWN UNIVERSITY, H. FEDERER AND  
W. S. MASSEY

Federer, Herbert. A Study of Function Spaces by Spectral Sequences. *Transactions of the American Mathematical Society*, 82: 340-361 (July 1956).

BROWN UNIVERSITY, BJARNI JÓNSSON

Jónsson, Bjarni. Distributive Sublattices of a Modular Lattice. *Proceedings of the American Mathematical Society*, 6: 682-688 (Oct. 1955).

UNIVERSITY OF CALIFORNIA, BERKELEY,  
J. G. VAN DER CORPUT

Van der Corput, J. G. Asymptotic Developments. I. Fundamental Theorems of Asymptotics. *Journal D'Analyse Mathématique*, 4: 341-418 (1954-56).

Van der Corput, J. G. Asymptotics. IVa. The Multiplication-Interpolation Method. *Proceedings Koninkl. Nederl. Akademie van Wetenschappen—Amsterdam, Series A*, 59, No. 2 and *Indag. Math.*, 18: 129-142 (1956).

Van der Corput, J. G., and L. O. Heflinger. On the Inequality of Mathieu. *Proceedings Koninkl. Nederl. Akademie van Wetenschappen—Amsterdam, Series A*, 59, No. 1 and *Indag. Math.*, 18: 15-20 (1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Mathematics—Continued**

UNIVERSITY OF SOUTHERN CALIFORNIA,  
L. A. HENKIN

Henkin, L. The Representation Theorem for Cylindrical Algebras. pp. 85–97. *In: Studies in Logic and the Foundations of Mathematics, Mathematical Interpretation of Formal Systems*, Amsterdam, North-Holland Publishing Co., 1955.

Henkin, Leon. A Generalization of the Concept of  $\omega$ -Consistency. *Journal of Symbolic Logic*, 19: 183–196 (Sept. 1954).

Henkin, Leon. Boolean Representation through Propositional Calculus. *Fundamenta Mathematicae*, 41: 89–96 (1954).

CARNEGIE INSTITUTE OF TECHNOLOGY, A. SCHILD

Dorn, W. S., and A. Schild. A Converse to the Virtual Work Theorem for Deformable Solids. *Quarterly of Applied Mathematics*, 14: 209–213 (July 1956).

Schild, A. On Gravitational Theories of Whitehead's Type. *Proceedings of the Royal Society, A*, 235: 202–209 (1956).

UNIVERSITY OF CHICAGO, P. R. HALMOS  
Halmos, P. R. Algebraic Logic. III. Predicates, Terms, and Operations in Polyadic Algebras. *Transactions of the American Mathematical Society*, 83: 430–470 (Nov. 1956).

Halmos, Paul R. Predicates, Terms, Operations, and Equality in Polyadic Boolean Algebras. *Proceedings of the National Academy of Sciences*, 42: 130–136 (Mar. 1956).

Halmos, Paul R. The Basic Concepts of Algebraic Logic. *American Mathematical Monthly*, 63: 363–387 (June–July 1956).

UNIVERSITY OF CHICAGO, S. MACLANE  
AND S. S. CHERN

Spanier, E. The Homology of Kummer Manifolds. *Proceedings of the*

*American Mathematical Society*, 7: 155–160 (Feb. 1956).

Spanier, E. H. Duality and S-Theory. *Bulletin of the American Mathematical Society*, 62: 194–203 (May 1956).

Spanier, E. H., and J. H. C. Whitehead. Duality of Homotopy Theory. *Mathematika*, 2: 56–80 (1955).

Spanier, E. H., and J. H. C. Whitehead. Obstructions to Compression. *Quarterly Journal of Mathematics*, Oxford, 6: 91–100 (June 1955).

UNIVERSITY OF CHICAGO, A. WEIL

Matsusaka, T. The Criteria for Algebraic Equivalence and the Torsion Group. *American Journal of Mathematics*, 79: 53–66 (Jan. 1957).

Matsusaka, Teruhisa. Polarized Varieties, the Fields of Moduli and Generalized Kummer Varieties of Abelian Varieties. *Proceedings of the Japan Academy*, 32: 367–372 (1956).

UNIVERSITY OF CONNECTICUT, R. D. SCHAFFER

Kleinfeld, Erwin. Generalization of a Theorem on Simple Alternative Rings. *Portugaliae Mathematica*, 14: 91–94 (1955).

Kleinfeld, Erwin. Standard and Accessible Rings. *Canadian Journal of Mathematics*, 8: 335–340 (1956).

DARTMOUTH COLLEGE, J. G. KEMENY

Kemeny, John G., Oskar Morgenstern, and Gerald L. Thompson. A Generalization of the Von Neumann Model of an Expanding Economy. *Econometrica*, *Journal of the Econometric Society*, 24: 115–135 (Apr. 1956).

McCarthy, John. Measures of the Value of Information. *Proceedings of the National Academy of Sciences*, 42: 654–655 (Sept. 1956).



*Division of Mathematical, Physical, and Engineering Sciences—Continued***Mathematics—Continued****UNIVERSITY OF GEORGIA, M. K. FORT, JR.**

Fort, M. K., Jr. Essential Mappings. *American Mathematical Monthly*, 63: 238–241 (Apr. 1956).

Fort, M. K., Jr. Extensions of Mappings into  $n$ -Cubes. *Proceedings of the American Mathematical Society*, 7: 539–542 (June 1956).

Fort, M. K., Jr. The Embedding of Homeomorphisms in Flows. *Proceedings of the American Mathematical Society*, 6: 960–967 (Dec. 1955).

**Haverford College, R. C. James**

James, R. C. Projections in the Space ( $m$ ). *Proceedings of the American Mathematical Society*, 6: 899–902 (Dec. 1955).

**UNIVERSITY OF ILLINOIS, A. H. TAUB**

Taub, A. H. Isentropic Hydrodynamics in Plane Symmetric Space-Times. *Physical Review*, 103: 454–467 (July 1956).

**UNIVERSITY OF ILLINOIS, C. T. YANG**

Montgomery, D., H. Samelson, and C. T. Yang. Exceptional Orbits of Highest Dimension. *Annals of Mathematics*, 64: 131–141 (July 1956).

Montgomery, D., H. Samelson, and C. T. Yang. Groups on  $E^n$  with  $(n-2)$ -Dimensional Orbits. *Proceedings of the American Mathematical Society*, 7: 719–728 (Aug. 1956).

Montgomery, Deane, and Hans Samelson. A Theorem on Fixed Points of Involutions in  $S^3$ . *Canadian Journal of Mathematics*, 7: 208–220 (1955).

**INDIANA UNIVERSITY, V. HLAVATÝ, E. HOPF, AND J. W. YOUNGS.**

Hlavatý, Václav. The Elementary Basic Principles of the Unified Theory of Relativity. C<sub>4</sub> General Case. *Journal of Rational Mechanics and Analysis*, 5: 419–472 (May 1956).

**INSTITUTE FOR ADVANCED STUDY, S. CHERN**

Chern, Shiing-Shen. An Elementary Proof of the Existence of Isothermal Parameters on a Surface. *Proceedings of the American Mathematical Society*, 6: 771–782 (Oct. 1955).

Chern, Shiing-Shen. On Special  $\varpi$ -Surfaces. *Proceedings of the American Mathematical Society*, 6: 783–786 (Oct. 1955).

**INSTITUTE FOR ADVANCED STUDY, L. EHRENPREIS**

Ehrenpreis, Leon. On the Theory of Kernels of Schwartz. *Proceedings of the American Mathematical Society*, 7: 713–718 (Aug. 1956).

Ehrenpreis, Leon. Sheaves and Differential Equations. *Proceedings of the American Mathematical Society*, 7: 1131–1138 (Dec. 1956).

Ehrenpreis, Leon. Theory of Distributions for Locally Compact Spaces. *Memoirs of the American Mathematical Society*, No. 21, 1956, 80 pp.

**INSTITUTE FOR ADVANCED STUDY, IRVING SEGAL**

Segal, I. E. Tensor Algebras Over Hilbert Spaces. II. *Annals of Mathematics*, 63: 160–175 (Jan. 1956).

Segal, I. E. Uniqueness of the Fine-Structure Constant. *Proceedings of the National Academy of Sciences*, 41: 1103–1107 (Dec. 1955).

**JOHNS HOPKINS UNIVERSITY, W. CHOW**

Chow, Wei-Liang. On Equivalence Classes of Cycles in an Algebraic Variety. *Annals of Mathematics*, 64: 450–479 (Nov. 1956).

**KENTUCKY RESEARCH FOUNDATION, V. F. COWLING**

Cowling, V. F. On Analytic Functions Having a Positive Real Part in the Unit Circle. *American Mathematical Monthly*, 63: 329–330 (May 1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Mathematics—Continued**

Cowling, V. F. On Borel Summability. *Journal of the London Mathematical Society*, 31: 369–373 (1956).

Cowling, V. F. On the Euler Summability of a Class of Dirichlet Series. *Tôhoku Mathematical Journal*, 7: 240–242 (Dec. 1955).

**KENYON COLLEGE, O. M. NIKODYM**

Nikodým, Otton Martin. On Extension of a Given Finitely Additive Field-Valued, Non Negative Measure, on a Finitely Additive Boolean Tribe, to Another Tribe More Ample. *Rendiconti del Seminario Matematico della Università di Padova*, 26: 232–327 (1956).

**UNIVERSITY OF MICHIGAN, WILFRED KAPLAN**

Kaplan, Wilfred. Approximation by Entire Functions. *Michigan Mathematical Journal*, 3: 43–52 (1955–56).

Kaplan, Wilfred. Curve Families and Riemann Surfaces. pp. 425–432. *In: Lectures on Functions of a Complex Variable*, Ann Arbor, Mich., University of Michigan Press, 1955.

Kaplan, Wilfred. Extensions of the Gross Star Theorem. *Michigan Mathematical Journal*, 2: 105–108 (1953–54).

**UNIVERSITY OF MICHIGAN, L. TORNHEIM**

Tornheim, Leonard. Approximation by Families of Functions. *Proceedings of the American Mathematical Society*, 7: 641–643 (Aug. 1956).

**MORGAN STATE COLLEGE, L. I. MISHOE**

Mishoe, L. I., and G. C. Ford. On the Limit of the Coefficients of the Eigenfunction Series Associated with a Certain Non-Self-Adjoint Differential System. *Proceedings of the American Mathematical Society*, 7: 260–266 (Apr. 1956).

**NORTHWESTERN UNIVERSITY, R. P. BOAS, JR.**

Boas, R. P., Jr. Inequalities for Functions of Exponential Type. *Mathematica Scandinavica*, 4: 29–32 (1956).

**NORTHWESTERN UNIVERSITY, K. FAN, J. JENKINS, AND W. SEIDEL**

Bagemihl, F., and W. Seidel. A Problem Concerning Cluster Sets of Analytic Functions. *Mathematische Zeitschrift*, 62: 99–110 (1955).

Bagemihl, F., and W. Seidel. Functions of Bounded Characteristic with Prescribed Ambiguous Points. *Michigan Mathematical Journal*, 3: 77–81 (1955–56).

Bagemihl, F., and W. Seidel. Regular Functions with Prescribed Measurable Boundary Values Almost Everywhere. *Proceedings of the National Academy of Sciences*, 41: 740–743 (Oct. 1955).

Bagemihl, F., and W. Seidel. Some Remarks on Boundary Behavior of Analytic and Meromorphic Functions. *Nagoya Mathematical Journal*, 9: 79–85 (Oct. 1955).

Bagemihl, Frederick, and Wladimir Seidel. Théorie Des Fonctions. Valeurs Évitées, mais non Asymptotiques, pour les Fonctions Holomorphes dans le Cercle-Unité. *Comptes rendus des séances de l'Académie des Sciences*, 241: 1195–1196 (Oct. 1955).

Fan, Ky, and Irving Glicksberg. Fully Convex Normed Linear Spaces. *Proceedings of the National Academy of Sciences*, 41: 947–953 (Nov. 1955).

**NORTHWESTERN UNIVERSITY, A. ROSENBERG AND ZELINSKY**

Rosenberg, Alex, and Daniel Zelinsky. Cohomology of Infinite Algebras. *Transactions of the American Mathematical Society*, 82: 85–98 (May 1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Mathematics—Continued**

Zelinsky, Daniel. Galois. Non-Commutative Galois Theory. (In Japanese Journal, 1-4, 1955.)

**OBERLIN COLLEGE, J. D. BAUM**

Baum, J. D. *P*-Recurrence in Topological Dynamics. Proceedings of the American Mathematical Society, 7: 1146-1154 (Dec. 1956).

**OHIO STATE UNIVERSITY, M. HALL, JR.**

Hall, Marshall, Jr. A Survey of Difference Sets. Proceedings of the American Mathematical Society, 7: 975-986 (Dec. 1956).

Hall, Marshall, Jr. An Algorithm for Distinct Representatives. American Mathematical Monthly, 63: 716-717 (Dec. 1956).

Hall, Marshall, Jr., J. Dean Swift, and Robert J. Walker. Uniqueness of the Projective Plane of Order Eight. Mathematical Tables and Other Aids to Computation, 10: 186-194 (Oct. 1956).

**UNIVERSITY OF PENNSYLVANIA, R. D. ANDERSON**

Anderson, R. D. Open Mappings of Compact Continua. Proceedings of the National Academy of Sciences, 42: 347-349 (June 1956).

**PURDUE RESEARCH FOUNDATION, L. GILLMAN, M. HENRIKSEN, AND M. JERISON**

Bagemihl, F., and L. Gillman. Some Cofinality Theorems on Ordered Sets. Fundamenta Mathematicae, 43: 178-184 [1956].

Correl, Ellen, and Melvin Henriksen. On Rings of Bounded Continuous Functions with Values in a Division Ring. Proceedings of the American Mathematical Society, 7: 194-198 (Apr. 1956).

Gillman, L. Some Remarks on *N*-sets. Fundamenta Mathematicae, 43: 77-82 [1956].

Gillman, Leonard. On a Theorem of Mahlo Concerning Anti-Homo-

geneous Sets. Michigan Mathematical Journal, 3: 173-177 (1955-56).

Gillman, Leonard. Théorie Des Ensembles.—Remarque sur les ensembles *N<sub>a</sub>*. Comptes rendus des séances de l'Académie des Sciences 241: 12-13 (July 1955).

Gillman, Leonard, and Melvin Henriksen. Some Remarks about Elementary Divisor Rings. Rings of Continuous Functions in Which Every Finitely Generated Ideal is Principal. Transactions of the American Mathematical Society, 82: 362-391 (July 1956).

Henriksen, Melvin. Some Remarks on Elementary Divisor Rings II. Michigan Mathematical Journal, 3: 159-163 (1955-56).

Jerison, Meyer. The Set of all Generalized Limits of Bounded Sequences. Canadian Journal of Mathematics, 9: 79-89 (1956).

Jerison, Meyer, and G. Rabson. Convergence Theorems Obtained from Induced Homomorphisms of a Group Algebra. Annals of Mathematics, 63: 176-190 (Jan. 1956).

**PURDUE RESEARCH FOUNDATION, C. R. PUTNAM**

Beck, W. A., and C. R. Putnam. A Note on Normal Operators and Their Adjoints. Journal of the London Mathematical Society, 31: 213-216 (1956).

Hartman, Philip, and Calvin R. Putnam. The Essential Spectrum and Averages of the Potential. Duke Mathematical Journal, 23: 83-92 (Mar. 1956).

Putnam, C. R. A Note on Inverses of Differential Operators. Mathematische Zeitschrift, 64: 149-150 (1956).

Putnam, C. R. Necessary and Sufficient Conditions for the Existence

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Mathematics—Continued**

of Negative Spectra. *Quarterly of Applied Mathematics*, 13: 335-337 (Oct. 1955).

Putnam, C. R. Note on Some Oscillation Criteria. *Proceedings of the American Mathematical Society*, 6: 950-952 (Dec. 1955).

Putnam, C. R. Note on the Many-Particle Problem. *Quarterly of Applied Mathematics*, 14: 101-102 (Apr. 1956).

Putnam, C. R. On Rotations in Hilbert Space. *Quarterly Journal of Mathematics*, 6: 188-192 (Sept. 1955).

**QUEENS COLLEGE, L. ZIPPIN**

Montgomery, D., H. Samelson, and L. Zippin. Singular Points of a Compact Transformation Group. *Annals of Mathematics*, 63: 1-9 (Jan. 1956).

Montgomery, Deane, and Leo Zippin. *Topological Transformation Groups*. 282 pp. New York, Interscience Publishers, Inc., 1955.

**UNIVERSITY OF ROCHESTER, M. E. RUDIN**

Rudin, Mary Ellen. Countable Paracompactness and Souslin's Problem. *Canadian Journal of Mathematics*, 7: 543-547 (1955).

**UNIVERSITY OF TEXAS, H. S. VANDIVER**

Selfridge, J. L., C. A. Nicol, and H. S. Vandiver. On Diophantine Equations Which Have No Solutions. *Proceedings of the National Academy of Sciences*, 42: 264-266 (May 1956).

Selfridge, J. L., C. A. Nicol, and H. S. Vandiver. Proof of Fermat's Last Theorem for all Prime Exponents Less Than 4002. *Proceedings of the National Academy of Sciences*, 41: 970-973 (Nov. 1955).

Vandiver, H. S. Diophantine Equations in Certain Rings. *Proceedings*

of the National Academy of Sciences, 42: 656-665 (Sept. 1956).

Vandiver, H. S. Is There an Infinity of Regular Primes? *Scripta Mathematica*, 21: 306-309 (Dec. 1955).

Vandiver, H. S. On Cyclotomic Relations and Trinomial Equations in a Finite Field. *Proceedings of the National Academy of Sciences*, 41: 775-780 (Oct. 1955).

Vandiver, H. S. On the Divisors of the Second Factor of the Class Number of a Cyclotomic Field. *Proceedings of the National Academy of Sciences*, 41: 780-783 (Oct. 1955).

Vandiver, H. S. On the Properties of Certain Trinomial Equations in a Finite Field. *Proceedings of the National Academy of Sciences*, 41: 651-653 (Sept. 1955).

Vandiver, H. S. Relation of the Theory of Certain Trinomial Equations in a Finite Field to Fermat's Last Theorem. *Proceedings of the National Academy of Sciences*, 41: 770-775 (Oct. 1955).

Vandiver, H. S., and M. W. Weaver. A Development of Associative Algebra and an Algebraic Theory of Numbers, IV. *Mathematics Magazine*: 1-8 (Sept.-Oct. 1956).

Weaver, Milo. Zero Integral Homogeneous Symmetric Functions in Certain Rings. *American Mathematical Monthly*, 63: 387-391 (June-July 1956).

Weaver, Milo W. On the Imbedding of a Finite Commutative Semigroup of Idempotents in a Uniquely Factorable Semigroup. *Proceedings of the National Academy of Sciences*, 42: 772-775 (Oct. 1956).

**TULANE UNIVERSITY, A. D. WALLACE**

Mostert, P. S., and A. L. Shields. On a Class of Semigroups on *En*. *Proceedings of the American Mathematical Society*, 7: 729-734 (Aug. 1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Mathematics—Continued**

Wallace, A. D. The Gebietstreue in Semigroups. *Proceedings Koninkl. Nederl. Akademie van Wetenschappen—Amsterdam, Series A*, 59, No. 3, and *Indag. Math.*, 18: 271–274 (1956).

Wallace, A. D. The Rees-Suschke-witsch Structure Theorem for Compact Simple Semigroups. *Proceedings of the National Academy of Sciences*, 42: 430–432 (July 1956).

**VIRGINIA POLYTECHNIC INSTITUTE, M. C. K. TWEEDIE**

Tweedie, M. C. K. Some Statistical Properties of Inverse Gaussian Distributions. *Virginia Journal of Science*, 7: 160–165 (July 1956).

**UNIVERSITY OF VIRGINIA, EDWARD J. MC-SHANE**

Floyd, E. E. Boolean Algebras with Pathological Order Topologies. *Pacific Journal of Mathematics*, 5: 687–689 (1955).

Floyd, E. E., and V. L. Klee. A Characterization of Reflexivity by the Lattice of Closed Subspaces. *Proceedings of the American Mathematical Society*, 5: 655–661 (Aug. 1954).

McShane, E. J. A Dominated-Convergence Theorem. *Duke Mathematical Journal*, 22: 325–332 (June 1955).

McShane, E. J. A Theory of Convergence. *Canadian Journal of Mathematics*, 6: 161–168 (1954).

Williams, R. F. A Note on Unstable Homeomorphisms. *Proceedings of the American Mathematical Society*, 6: 308–309 (Apr. 1955).

Williams, R. F. Local Properties of Open Mappings. *Duke Mathematical Journal*, 22: 339–346 (Sept. 1955).

Williams, R. F. Reduction of Open Mappings. *Proceedings of the Amer-*

*ican Mathematical Society*, 7: 312–318 (Apr. 1956).

**UNIVERSITY OF WASHINGTON, SEATTLE, F. H. BROWNELL**

Arsove, Maynard G. Normal Families of Subharmonic Functions. *Proceedings of the American Mathematical Society*, 7: 115–126 (Feb. 1956).

Arsove, Maynard G. On the Definition of an Analytic Function. *American Mathematical Monthly*, 62: 22–25 (Jan. 1955).

Brownell, F. H. Fourier Analysis and Differentiation over Real Separable Hilbert Space. *Pacific Journal of Mathematics*, 5: 649–662 (1955).

Brownell, F. H. An Extension of Weyl's Asymptotic Law for Eigenvalues. *Pacific Journal of Mathematics*, 5: 483–499 (Dec. 1955).

Brownell, F. H. Flows and Non-commuting Projections on Hilbert Space. *Pacific Journal of Mathematics*, 5: 1–16 (Mar. 1955).

Brownell, F. H., and W. K. Ergen. A Theorem on Rearrangements and Its Application to Certain Delay Differential Equations. *Journal of Rational Mechanics and Analysis*, 3: 565–579 (Sept. 1954).

**UNIVERSITY OF WASHINGTON, SEATTLE, E. HEWITT**

Arsove, Maynard G. The Looman-Menchoff Theorem and Some Subharmonic Function Analogues. *Proceedings of the American Mathematical Society*, 6: 94–105 (Feb. 1955).

Hewitt, Edwin, and L. J. Savage. Symmetric Measures on Cartesian Products. *Transactions of the American Mathematical Society*, 80: 470–501 (Nov. 1955).

Hewitt, Edwin, and Herbert S. Zuckerman. Arithmetic and Limit Theorems for a Class of Random Variables. *Duke Mathematical Journal*, 22: 595–616 (Dec. 1955).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Mathematics—Continued**

Hewitt, Edwin, and Herbert S. Zuckerman. Finite Dimensional Convolution Algebras. *Acta Mathematica*, 93: 67–119 (1955).

Hewitt, Edwin, and Herbert S. Zuckerman. Harmonic Analysis for Certain Semigroups. *Proceedings of the National Academy of Sciences*, 42: 253–255 (May 1956).

UNIVERSITY OF WASHINGTON, SEATTLE,  
E. HEWITT AND F. H. BROWNELL

Hewitt, Edwin, and Herbert S. Zuckerman. The  $l_1$ -Algebra of a Commutative Semigroup. *Transactions of the American Mathematical Society*, 83: 70–97 (Sept. 1956).

UNIVERSITY OF WISCONSIN, R. H. BING  
Bing, R. H. A Simple Closed Curve That Pierces No Disk. *Journal de Mathématiques*, 35: 337–343 (1956).

Bing, R. H. Locally Tame Sets are Tame. *Annals of Mathematics*, 59: 145–158 (Jan. 1954).

Bing, R. H. Partially Continuous Decompositions. *Proceedings of the American Mathematical Society*, 6: 124–133 (Feb. 1955).

Bing, R. H. Some Monotone Decompositions of a Cube. *Annals of Mathematics*, 61: 279–288 (Mar. 1955).

UNIVERSITY OF WISCONSIN, L. C.  
YOUNG

Young, L. C. On Generalized Surfaces of Finite Topological Types. *Memoirs of the American Mathematical Society*, 17: 1–63 (1955).

**Physics**

ANTIOCH COLLEGE, G. E. OWEN AND  
A. B. STEWART

Stewart, A. B. Oscillating Glow Discharge Plasma. *Journal of Applied Physics*, 27: 911–916 (Aug. 1956).

UNIVERSITY OF ARKANSAS, B. L. ROBINSON AND R. W. FINK

Fink, R. W., and B. L. Robinson. Compton Backscattered Photons in Precision Proportional Counter Spectrometry. *Review of Scientific Instruments*, 27: 712–713 (Sept. 1956).

Fink, R. W., G. W. Warren, R. R. Edwards, and P. E. Damon. Gamma Radiation in RaD and RaE Decay. *Physical Review*, 103: 651–655 (Aug. 1956).

BOWDOIN COLLEGE, M. A. JEPPESEN

Jeppesen, Myron A. Measurements on the Kerr Electro-Optical Effect. *American Journal of Physics*, 24: 623–625 (Dec. 1956).

BROWN UNIVERSITY, P. J. BRAY

Bray, P. J., R. G. Barnes, and R. Bersohn. Pure Quadrupole Resonances in Multichlorobenzenes. *Journal of Chemical Physics*, 25: 813–818 (Nov. 1956).

Bray, P. J., George O'Keefe, and R. G. Barnes. As<sup>78</sup> Pure Quadrupole Resonance in Synthetic Claudetite. *Journal of Chemical Physics*, 25: 792–793 (Oct. 1956).

Segel, S. L., R. G. Barnes, and P. J. Bray. Nuclear Quadrupole Resonances of Cl<sup>35</sup> and Br<sup>79</sup> and Some Heterocyclic Compounds. *Journal of Chemical Physics*, 25: 1286–1287 (Dec. 1956).

BROWN UNIVERSITY, H. E. FARNSWORTH  
Farnsworth, H. E., and R. F. Woodcock.

Radiation Quenching, Ion Bombardment, and Annealing of Nickel and Platinum for Ethylene Hydrogenation. *Industrial and Engineering Chemistry*, 49: 258–260 (Feb. 1957).

UNIVERSITY OF CALIFORNIA, BERKELEY,  
C. KITTEL

Dyson, Freeman J. General Theory of Spin-Wave Interactions. *Physical Review*, 102: 1217–1230 (June 1956).

## Division of Mathematical, Physical, and Engineering Sciences—Continued

## Physics—Continued

Dyson, Freeman J. Thermodynamic Behavior of an Ideal Ferromagnet. *Physical Review*, 102: 1230–1244 (June 1956).

UNIVERSITY OF CHICAGO, M. G. INGRAM  
Chupka, William A., Mark G. Inghram, and Richard F. Porter. Dissociation Energy of Gaseous LaO. *Journal of Chemical Physics*, 24: 792–796 (Apr. 1956).

Inghram, Mark G., William A. Chupka, and Richard F. Porter. Mass Spectrometric Study of Barium Oxide Vapor. *Journal of Chemical Physics*, 23: 2159–2165 (Nov. 1955).

Inghram, Von Mark G., and Robert Gomer. Massenspektrometrische Untersuchungen der Feldemission Positiver Ionen. *Zeitschrift für Naturforschung*, 10a: 863–872 (1955).

Porter, Richard F., William A. Chupka, and Mark G. Inghram. On the Dissociation Energies of SrO and MgO Molecules. *Journal of Chemical Physics*, 23: 1347–1348 (July 1955).

Schumacher, Ernst. Isolierung von K, Rb, Sr, Ba und Seltenen Erden aus Steinmeteoriten. Quantitative Bestimmung von Rubidium und Strontium in Steinmeteoriten mit der massenspektrometrischen Isotopenverdünnungsmethode. *Helvetica Chimica Acta*, 39: 531–547 (1956).

COLUMBIA UNIVERSITY, H. M. FOLEY  
Salwen, Harold. Resonance Transitions in Molecular Beams Experiments. II. Averages over the Velocity Distribution. *Physical Review*, 101: 621–622 (Jan. 1956).

Salwen, Harold. Theory of Multiple-Quantum Transitions in the Ground State of  $K^{80}$ . *Physical Review*, 101: 623–626 (Jan. 1956).

COLUMBIA UNIVERSITY, G. G. HARRIS  
Harris, G., J. Orear, and S. Taylor. Heavy Meson Fluxes at the Cosmo-

tron. *Physical Review*, 101: 1214–1215 (Feb. 1956).

COLUMBIA UNIVERSITY, P. KUSCH  
Novick, R., and E. Commins. Hyperfine Structure of the Metastable State of Singly Ionized He<sup>+</sup>. *Physical Review*, 103: 1897–1899 (Sept. 1956).

DEPAUW UNIVERSITY, M. CORRELL  
Correll, Malcolm, Martha Hazen, and John Bahng. Motions of Prominences. *Astrophysical Journal*, 124: 597–600 (Nov. 1956).

DUKE UNIVERSITY, H. SPONER  
Chen, Tien Chi. Evaluation of Auxiliary Functions in Molecular Theory. *Journal of Chemical Physics*, 24: 1268–1269 (June 1956).

Chen, Tien Chi. Expansion of Electronic Wave Functions of Molecules in Terms of "United-Atom" Wave Functions. *Journal of Chemical Physics*, 23: 2200–2201 (Nov. 1955).

Franck, James, and H. Sponer. Remarks on Radiationless Transitions in Complex Molecules. *Journal of Chemical Physics*, 25: 172 (July 1956).

ILLINOIS INSTITUTE OF TECHNOLOGY,  
F. F. CLEVELAND

Dowling, Jerome M. Normal Coordinate Treatment for the Out-of-Plane Vibrations of Ethylene-Type Molecules. *Journal of Chemical Physics*, 25: 284–288 (Aug. 1956).

Meister, Arnold G., Jerome M. Dowling, and Anthony J. Bielecki. Substituted Methanes. XXVII. Potential Constants and Calculated Thermodynamic Properties for CH<sub>2</sub>F<sub>2</sub>, CHDF<sub>2</sub>, and CD<sub>2</sub>F<sub>2</sub>. *Journal of Chemical Physics*, 25: 941–942 (Nov. 1956).

INSTITUTE FOR ADVANCED STUDY, I. SEGAL

Segal, I. E. Tensor Algebras over Hilbert Spaces. II. *Annals of Mathematics*, 63: 160–175 (Jan. 1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Physics—Continued**

Segal, I. E. Uniqueness of the Fine-Structure Constant. *Proceedings of the National Academy of Sciences*, 41: 1103–1107 (Dec. 1955).

STATE UNIVERSITY OF IOWA, J. M. JAUCH  
Takahashi, Y. Theory of Multiple Boson Production. *Il Nuovo Cimento*, 4: 531–548 (Sept. 1956).

JOHNS HOPKINS UNIVERSITY, H. MEISSNER

Meissner, Hans. Paramagnetic Effect in Superconductors. III. Measurements on Hollow Cylinders of Mercury and Tin. *Physical Review*, 101: 1660–1667 (Mar. 1956).

Meissner, Hans. Remarks on Recent Measurements of the Paramagnetic Effect in Tin. *Physical Review*, 103: 39–40 (July 1956).

LOUISIANA STATE UNIVERSITY, J. S. LEVINGER

Levinger, J. S., and M. L. Rustgi. Relativistic Radiative Transitions. *Physical Review*, 103: 439–442 (July 1956).

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, G. R. HARRISON

Harrison, George R., Neville Sturgis, Stanley C. Baker, and George W. Stroke. Ruling of Large Diffraction Gratings with Interferometric Control. *Journal of the Optical Society of America*, 47: 15–22 (Jan. 1957).

UNIVERSITY OF MISSOURI, A. R. LAUFER  
Laufer, Arthur R., and Garland L. Thomas. New Method for the Calibration of a Plane Hydrophone. *Journal of the Acoustical Society of America*, 28: 951–958 (Sept. 1956).

UNIVERSITY OF PENNSYLVANIA, W. E. STEPHENS

Hartley W. H., W. E. Stephens, and E. J. Winhold. Cross Sections for Photon-neutron Emission Induced by the Lithium Gamma Rays. *Physical Review*, 104: 178–182 (Oct. 1956).

UNIVERSITY OF PITTSBURGH, T. M. DONAHUE

Donahue, T. M. A Calculation of the Sodium Dayglow Intensity. *Journal of Geophysical Research*, 61: 663–666 (Dec. 1956).

Donahue, T. M. The Rayleigh Scattering Correction in Measurements of the Sodium Twilight Flash. *Journal of Atmospheric and Terrestrial Physics*, 9: 262–268 (1956).

Donahue, T. M., Robert Resnick, and V. Robert Stull. Distribution in the Upper Atmosphere of Sodium Atoms Excited by Sunlight. *Physical Review*, 104: 873–879 (Nov. 1956).

RICE INSTITUTE, C. F. SQUIRE

Muench, Nils L. Effects of Stress on Superconducting Sn, In, Tl, and Al. *Physical Review*, 99: 1814–1820 (Sept. 1955).

Teasdale, Tom S. Permanent Magnetic Moments of a Superconducting Sphere. *Physical Review*, 99: 1248–1251 (Aug. 1955).

Thompson, James C. Paramagnetic Effect in Superconducting Tin, Indium, and Thallium. *Physical Review*, 102: 1004–1008 (May 1956).

VANDERBILT UNIVERSITY I. BLOCH

Bloch, Ingram, and Yü-Chang Hsieh. Some Properties of Nuclear Normal Modes. *Physical Review*, 96: 382–385 (Oct. 1954).

Hsieh, Yü-Chang, and Ingram Bloch. Single-Body Wave Functions and Two-Body Forces. *Physical Review*, 101: 205–209 (Jan. 1956).

UNIVERSITY OF VIRGINIA, J. W. BEAMS

Beams, J. W. The Magnetically Supported Equilibrium Ultracentrifuge. *Proceedings of the American Philosophical Society*, 101: 63–69 (Feb. 1957).



## Division of Mathematical, Physical, and Engineering Sciences—Continued

## Physics—Continued

UNIVERSITY OF WYOMING, F. J. BUECHE  
Bucche, F., J. K. Wood, and J. R. Wray. Variation of Viscosity of Coiling Polymers with Shear Rate. *Journal of Chemical Physics*, 24: 903 (Apr. 1956).

YALE UNIVERSITY, C. T. LANE  
Blakewood, C. H., R. H. Walmsley, and C. T. Lane. Rotational Attenuation of Second Sound in Helium II. *Physical Review*, 104: 1495–1496 (Dec. 1956).

Donnelly R. J. and O. Penrose. Oscillations of Liquid Helium in a U-Tube. *Physical Review*, 103: 1137–1144 (Sept. 1956).

## Rubber Research

UNIVERSITY OF ILLINOIS  
Marvel, C. S., S. Alan Aspey, and Edward A. Dudley. Quadridentate and Sexadentate Chelates. Some Preliminary Studies in their Preparation and Thermal Stability. *Journal of the American Chemical Society*, 78: 4905–4909 (Oct. 1956).

Marvel, C. S., and Ralph C. Farrar, Jr. Copolymerization of Methyl *trans*- $\beta$ -Benzoylacrylate with Butadiene. *Journal of Polymer Science*, 22: 223–226 (Nov. 1956).

Marvel, C. S., and Ralph C. Farrar, Jr. Cyclic Dimercaptals and Dimercaptols from Alkylene Dithiols. *Journal of the American Chemical Society*, 79: 986–988 (Feb. 1957).

Marvel, C. S., Robert M. Nowak, and James Economy. Further Attempts to Prepare 3,4-Dimethylenethiophane and its Sulfone. *Journal of the American Chemical Society*, 78: 6171–6174 (Dec. 1956).

Marvel, C. S., Thomas H. Shepherd, Charles King, James Economy, and Eugene D. Vessel. The Preparation of Bis-(ethyl 3,5-dimethylphenoxy-

acetate)-4,4'-disulfide. *Journal of Organic Chemistry*, 21: 1173–1174 (1956).

Marvel, C. S., and J. K. Stille. The Boron Fluoride Catalyzed Condensation of Pyridine-2-Aldehyde. *Journal of Organic Chemistry*, 21: 1313 (1956).

Marvel, C. S., A. T. Tweedie, and J. Economy. Copolymerization Reactions of *trans*-1,2-Di-(2-pyridyl) ethylene. *Journal of Organic Chemistry*, 21: 1420–1422 (Dec. 1956).

UNIVERSITY OF MINNESOTA  
Meehan, E. J., I. M. Kolthoff, Nora Tamberg, and C. L. Segal. Mechanism of Retardation in Emulsion Polymerization of Styrene. *Journal of Polymer Science*, 24: 215–232 (Apr. 1957).

## Conferences and General

CALIFORNIA INSTITUTE OF TECHNOLOGY,  
F. C. LINDVALL AND G. G. BROWN  
Mathematics in Engineering. Report of Pasadena Conference. *Journal of Engineering Education*, 46: 585–591 (Mar. 1956).

UNIVERSITY OF CALIFORNIA, BERKELEY  
Proceedings of the Symposium on High Temperature—A Tool for the Future, Berkeley, California, June 25, 26, 27, 1956. 218 pp. Menlo Park, Calif., Stanford Research Institute, 1956.

UNIVERSITY OF CHICAGO  
Proceedings of the Conference on Nuclear Processes in Geologic Settings, Williams Bay, Wis., September 21–23, 1953. 82 pp. Washington, D. C., National Academy of Sciences-National Research Council, 1953.

UNIVERSITY OF MARYLAND  
International Conference on Quantum Interactions of the Free Electron held April 23–25, 1956, at the University of Maryland. *Physics Today*, 9: 18–29 (Aug. 1956).

*Division of Mathematical, Physical, and Engineering Sciences—Continued***Conferences and General—Continued**

Quantum Interactions of the Free Electron. International Conference held at the University of Maryland, Apr. 23–25, 1956. Reviews of Modern Physics, 28: 171–337 (July 1956).

**NATIONAL ACADEMY OF SCIENCES**

Nuclear Processes in Geologic Settings. Proceedings of the Second Conference, Pennsylvania State University, Sept. 8–10, 1955. 204 pp. Washington, D. C., National Academy of Sciences-National Research Council, 1956.

UNIVERSITY OF WISCONSIN, M. CLAGETT Clagett, Marshall. *The Liber De Motu* of Gerard of Brussels and the Origins of Kinematics in the West. *Osiris*, 20: 73–175 (1956).

**Office of Scientific Information**

HERNER, MEYER & COMPANY, S. HERNER Herner, Saul, and Robert S. Meyer. Classifying and Indexing for the Special Library. *Science*, 125: 799–803 (Apr. 1957).

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY, V. H. YNGVE**

Chomsky, Noam. *Syntactic Structures*. 116 pp. Netherlands, Mouton & Co., 1957.

Yngve, Victor H. Gap Analysis and Syntax. *TRE Transactions on Information Theory*, IT-2: 106–112 [1956].

Yngve, Victor H. La machine remplacera-t-elle aussi le traducteur? *Le Linguiste*, 4: 5–7 (1956).

**NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL**

Glossary of Geology and Related Sciences. 325 pp. Washington, D. C., American Geological Institute, 1957.

**SMITHSONIAN INSTITUTION, T. E. SNYDER**

Snyder, Thomas E. Annotated, Subject-Heading Bibliography of Termites 1350 B. C. to A. D. 1954. *Smithsonian Miscellaneous Collections*, v. 130, Sept. 1956, 305 pp.