

Supplement to SCIENCE, July 7, 1922.

SCIENCE

NEW SERIES. VOLUME LV.

JANUARY-JUNE, 1922

NEW YORK
THE SCIENCE PRESS
1922

THOMAS J. GRIFFITHS & SONS
11 Liberty Street,
UTICA, N. Y.

CONTENTS AND INDEX.

NEW SERIES. VOL. LV—JANUARY TO JUNE, 1922

NAMES OF CONTRIBUTORS ARE PRINTED IN SMALL CAPITALS

- Agriculture, Research in, A. F. WOODS, 64; L. S. FRIERSON, 317; Soc. of England, 366; Doctorates in, W. H. CHANDLER, 619.
Agronomy Soc., Amer., P. E. BROWN, 270
Alcohol, Grain, L. E. GRIFFIN, 262; Butyl, G. W. MARTIN, 429.
ALEXANDER, J., Value of Tilth, 156.
Alkali and Cellulosic Materials, H. HIBBERT, 428.
ALLARD, A. A., Photoperiodism, 582.
ALLEE, W. C., Amer. Soc. Zoologists, 159.
ALLEN, E. W., Science in Agriculture, 6
ALLEN, W. E., Writing Popular Science, 454
Ameboid Bodies, L. O. KUNKEL, 73
American Association for the Advancement of Science: Significance of Calcium for Higher Green Plants, R. H. TRUE, 1; Method of Science in Agriculture, E. W. ALLEN, 6; Observation versus Experimentation, J. STEBBINS, 29; Toronto Meeting, B. E. LIVINGSTON, 34, 61, 68; Evolutionary Faith and Modern Doubts, W. BATESON, 55; Trend of Earth History, E. BLACKWELDER, 83; Report of Treasurer and Secretary, 103; Past and Future of Medical Sciences in U. S., J. ERLANGER, 135; International Auxiliary Language, S. W. STRATTON, 166; Mechanical Analogy in Theory of Equations, D. R. CURTISS, 189; Atomic Nuclei, J. C. MCLENNAN, 219; Organization of Knowledge, F. L. HOFFMAN, 247; Pacific Coast Division, 297; Section L, History of Science, F. E. BRASCH, 405; Grants for Research, J. STEBBINS, 409; Section A—Mathematics and Associated Societies, W. H. ROEVER, 519; Section B—Physics, S. R. WILLIAMS, 520; Section K—Social and Economic Sciences, E. L. HOFFMAN, 521; Section N—Medical Sciences, A. J. GOLDFARB, 521; Tucson Meeting, Southwestern Division, 542; Section F—Zoological Sciences, H. W. RAND, 572; Section G—Botanical Sciences, R. W. WYLIE, 573; Section I—Psychology, F. N. FREEMAN, 574; Section O—Agriculture, P. E. BROWN, 575; Southwestern Division, 45; Resolutions, 62; Associateship in, 93; Membership, 121; Grants for Research, J. STEBBINS, 256; Salt Lake City Meeting, B. E. LIVINGSTON, 450, 633; Section N, 472; Meeting of Executive Committee, B. E. LIVINGSTON, 680; Secretary's Report, 682; Section M—Medical Sciences, P. GILLESPIE, 683
ANDREWS, R. C., Amer. Mus. of Nat. History, 584
Angiosperms, E. C. JEFFREY, A. E. LONGLEY, C. W. T. PENLAND, 517
Animal Experimentation, E. WIGGLESWORTH, J. C. PHILLIPS, T. BARBOUR, 48
Apples, Stem End Rot, C. C. BARNUM, 707
Archeology, Mexican, 365
Argentine Rural Society, F. LAMSON-SCRIBNER, 119
Astronomical, Amer. Soc., J. STEBBINS, 298; Int. Union at Rome, 695
Atmospheric Pollution, A. MCADIE, 596
Atomic, Nuclei, J. C. MCLENNAN, 291; Structure, M. L. HUGGINS, 459
Bacteriologists, Amer. Soc., Culture Collection, 423
Bacteriology, Research Fellowship in, 423
Baird, Spencer F., Memorial, H. M. SMITH, 634
BARBOUR, T., Animal Experimentation, 48
BARKER, L. F., Endocrine Glands, 685
Barley, K. S. HOWE, 378
BARNUM, C. C., Stem End Rot of Apples, 707
BARUS, C., Physics, 19; Acoustic Topography, 321
BASCOM, K. F., Free-martin, 624
Baskerville, Charles, W. A. HAMOR, 693
BATESON, W., Evolution, 55, 373
Bean, Bacterial Wilt of, F. HEDGES, 433
BECKING, L. B., University of Graz, 595
BEEBE, R., Gels, 75
BELLING, JOHN, Haploid Mutant in Jimson Weed, 646
BENEDICT, H. M., Vein-Islets of Leaves, 399
Benzene, M. L. HUGGINS, 679
BINGHAM, E. C., Metric Standardization, 232, 664
Biological, Stains, 43; H. J. CONN, 284; Societies, Federation of, A. F. SHULL, 245
Biology, Amer. Soc. for Exp., C. W. GREENE, 335, 379
Biotic Areas and Ecologic Habitats, L. R. DICE, 531; Decerebration in, F. W. WEYMOUTH, 538; Sound Location in, J. MAILLAIRD, 208
BLACKWELDER, E., Earth History, 83, 114
BLAKE, S. F., Weeds, 455
BLAKESLEE, A. F., Globe Mutant of *Datura*, 597; Haploid Mutant, 646
Bombay School of Tropical Medicine, 669
BONAZZI, A., Pasteur Centenary, 50
BORODIN, D. N., Russian Bureau of Applied Botany, 129
BOWIE, WILLIAM, Geodetic Operations in U. S., 645
Branner, John Casper, D. S. JORDAN, 340, 530
BRASCH, F. E., Sec. L, History of Science, 405
BRIDGE, N., Norman Bridge Laboratory, 327
British, Universities, Relief Work, 44; Association, 68; Research on Cement, 148; Columbia Expedition, 173
BROOKS, C. F., Amer. Meteorological Soc., 636
BROWN, P. E., Amer. Soc. Agronomy, 270; Sec. O—Agri., 575
BUCHHOLZ, J. T., Globe Mutant of *Datura*, 597
Bugs and Antennæ, E. P. FELT, 528
BURGESS, P. S., Hydrogen-Ion Concentration of Soil, 647
BUSCH, H. P., Metric System, 400
Business and Engineering Training, 234
Butter, Digestibility of, A. D. HOLMES, 659

- CAIRNS, W. D., Math. Assoc. of America, 599
 CAJORI, F., Heinrich Suter, 447
 Calcium for Higher Green Plants, R. H. TRUE, 1
 Calcutta School of Tropical Medicine, 447
 CALMAN, W. T., Ray Society, 156
 CAMPBELL, WM., Henry Marion Howe, 631
 Carbon Monoxide Poisoning, 66
 Cartailhae, Emile, N. C. NELSON, 68
 CARR-SAUNDERS, A. M., Inheritance in Swine, 19
 CASTLE, W. E., Vienna White Rabbit, 269, 429;
 Y-chromosome Type, 703
 Catastrophism, New, A. M. MILLER, 701
 Cat-tail as Feed, L. E. FREUDENTHAL, 456
 CATTELL, McK., Peripheral Circulation, 434
 Cell Theory, J. H. GEROULD, 421
 Ceramic Society, American, 588
 CHAMPLAIN, A. B., Long-lived Woodborer, 49
 CHANDLER, W. H., Doctorates in Agriculture, 619
 CHASE, M. A., Iridescent Clouds, 263
 Chemical, Soc., Amer., C. L. PARSONS, 23, 77, 132,
 185, 212, 307, 343; Int. Conference at Utrecht,
 369; Engineering Lectures, 235; Exposition, 532
 Chemicals, "Key," 73
 Chemistry, The New, 157
 Ciliary Action, Effect of Acid on, J. M. D. OLM-
 STED and J. W. MACARTHUR, 625
 Circulation, Peripheral, McK. CATTELL, 434
 CLARK, G. L., Geometry and Inorg. Chemistry, 401
 CLARK, H. L., Mortensen on Development and
 Larval Forms of Echinoderms, 431
 CLARKE, J. M., Presentation to Professor Emer-
 son, 92
 CLEMENS, W. A., Hydra in Lake Erie, 445
 Clinical Medicine, S. R. MILLER, 577
 Clouds, Iridescent, M. A. CHASE, 262
 Coal, World Production of, 341
 COCKERELL, T. D. A., Wheeler on Social Beetles;
 Farquharson on Bionomics, 350
 COLE, L. J., Genetics Section Meeting, 326
 COLE, W. H., *Drosophila*, 678
 Colloid Chemistry at Univ. of Wisconsin, 393
 Collyer, Robert Hanham, H. F. OSBORN, 72
 Concilium Bibliographicum, V. KELLOGG, 11
 CONN, H. J., American Biological Stains, 284
 Constants, Annual Tables, 469
 COSGRAVE, J. O'H., Popular Science, 594
 Cowley, Abraham, R. J. H. DELOACH, 127
 CRAMPTON, H. E., Influenza in Pacific Islands, 90
 Crayfish Trap, E. C. O'ROKE, 677
 Crop Protection Institute, 14
 CROZIER, W. J., Publication of Scientific Papers,
 388
 CRUMB, S. E., Mosquito Attachment, 446
 Cultivation and Soil Moisture, H. A. NOYES, 610
 CURTISS, D. R., Equations, 189
 Cytology of Vegetable Crystals, E. C. JEFFREY,
 566
 DANIELS, F. B., Solar Energy, 618
 DAVIS, B. M., Species, Pure and Impure, 107
 Davis, Charles Henry, 2d, 200
 DAVIS, W. M., Deflection of Streams, 478
 Daylight Illumination, C. L. MEISINGER, 20
 DELOACH, R. J. H., Abraham Cowley, 127
 DICE, L. R., Biotic Areas and Ecologic Habitats,
 335
 Diseases, Animal, 507
 DORSEY, N. E., Writing Popular Science, 374, 593
 Dougherty, Cardinal, on Vivisection, 150
Drosophila, and Ultraviolet, F. E. LUTZ and F. K.
 RICHTMYER, 519; Photic Stimulus and Rate of
 Locomotion, W. H. COLE, 678
 DUFFENDACK, O. S., Hydrogen in Tungsten Fur-
 nace, 210
 Duty on English Books, G. D. HARRIS, 240
 Earth, History, E. BLACKWELDER, 83, 114; Rota-
 tion and River-Bank Movements, E. HAYES, 567
 Ecological Investigations, C. HARTMAN, 292
 Eddy, Henry Turner, J. J. F., 12
 Egg Secretion, O. GLASER, 486
 EISENHART, L. P., Einstein Equations, 570
 Electrified Microsections, S. W. GEISER, 212
 Electron, Mass of the, at Slow Velocity, L. T.
 JONES and H. O. HOLTE, 647
 Elements, Disintegration of, 422
 Emerson, Professor, Presentation to, J. M.
 CLARKE, 92
 Emission Bands of Erbium Oxide, E. L. NICHOLS
 and H. L. HOWES, 53
 Engineering, Council, Amer., 95; French Ex-
 change Professors in, 257
 Entomological Society, Louisiana, T. E. HOLLO-
 WAY, 436
 Equations, D. R. CURTISS, 189
 ERLANGER, J., Med. Sciences in U. S., 135
 Eskimos, Copper, HAROLD NOICE, 611
 Evolution: Evolutionary Faith and Modern
 Doubts, W. BATESON, 55, 373; William Bateson
 on Darwinism, H. F. OSBORN, 194; William
 Jennings Bryan on, 242, 264, 292; in Kentucky,
 149; A. N. MILLER, 178, 316; Teaching of, 318;
 E. M. KINDLE, 374; W. E. RITTER, 398; in
 Texas, S. A. R., 515; W. W. KEEN, 603, 669
 EWING, H. E., Nearctic Proturans, 706
 EYCLESHYMER, A. C., Medical Education, 437
 EYER, J. R., Tipburn, 180
 FARNHAM, M. E., Haploid Mutant, 646
 FASTEN, N., Fish Parasitism, 583
 FELT, E. P., Bugs and Antennæ, 528
 FENTON, F. A., Tipburn, 53
 Fertilization, Selective, D. F. JONES, 348
 FESSENDEN, R. A., Star Diameters, 180
 Field Museum Expeditions, 94
 Fiji Islands, Expedition to, 471
 FISHER, W. K., Clark's Monograph of Existing
 Crinoids, 376
 Fisheries, Alaska, 470, 561; Cal. State Lab., 507;
 U. S. Commissioner of, 637
 Fish Parasitism, N. FASTEN, 583
 FLETCHER, W., Aims and Boundaries of Physi-
 ology, 551
 Flora of Porto Rico, 470
 Footprints in Kansas, H. T. MARTIN, 99
 Fossil Vertebrates at Stuttgart, W. D. MATTHEW,
 156
 Foxhall Jaw, H. F. OSBORN, 128
 France, Exchange Professor with, 534
 Frazer, John, 534
 FREEMAN, F. N., Section I—Physiology, 574
 Free-martin and Interstitial Cells, F. R. LILLIE,
 K. F. BASCOM, 624
 FRIERSON, L. S., Tilth in Agriculture, 317
 Fruit Trees, H. B. TURKEY, 241, 423
 Fuller's Scale, H. R. ROSEN, 76
 GARNER, W. W., Photoperiodism, 582
 GARRISON, F. H., Sudhoff's Paracelsus, 155

- GEISER, S. W., Electrified Microsections, 212
Gels, Forms of Gas and Liquid Cavities on, A. W. C. MENZIES and R. BEEBE, 75
Genetics, C. B. HUTCHISON, 416
Geodetic and Geophys. Union, Rome Meeting, 614
Geographical Soc., Amer., 449; Royal Soc., 671
Geography, H. P. LITTLE, 362
Geologic Diffusion, G. O. SMITH, 596
Geologists, Assoc. of, in Pekin, 392
Geology, W. Vermont, C. E. GORDON, 208
Geometry and Inorganic Chemistry, G. L. CLARK, 401
Geophysical Union, Amer., 311
GEROULD, J. H., Cell Theory, 421
GILLESPIE, P., Sec. M at Toronto Meeting, 683
Glands, Endocrine, L. F. BARKER, 685
GLASER, O., Egg Secretion and Ethyl Butyrate, 486
Glass Flowers, 286
Globe Mutant, J. T. BUCHHOLZ, A. F. BLAKESLEE, 597
GOLDFARB, A. J., Sec. N—Med. Sciences, 521
GOODSPEED, A. W., Amer. Philosophical Soc., 649
Gorgas Memorial Institute, 149, 171
GORDON, C. E., Geology of Western Vermont, 208; Origin of Soil Colloids, 676
Graphs, W. H. ROEVER and E. R. HEDRICK, 401
Gravitational Absorption, P. R. HEYL, 349
Graz, University of, L. B. BECKING, 595
GREENE, C. W., Amer. Soc. for Exp. Biology, 379
GRIFFIN, L. E., Grain Alcohol, 262
GUDGER, E. W., Giant Ray, 338
GUYER, M. F., Nat. Research Council Fellowships, 636

HAAG, J. R., Hydrogen Electrode, 460
HALE, G. E., Constitution of Matter and Nature of Radiation, 332
Halifax, University of, 587
HALSEY, F. A., Metric System, 400
HAMOR, W. A., Charles Baskerville, 693
HANNA, G. D., Cal. Acad. of Sci., 305; Fur Seals, 505
HARDY, ARTHUR C., Kaiteur Falls, 643
HARRIS, G. D., Duty on English Books, 240
HARTMAN, C., Ecological Investigations, 292
HAYES, E., River-Bank Movements, 567
HAYFORD, J. F., Geodetic Operations in U. S., 645
Health, Public, Washington Conference on, 287
Heckscher Research Foundation, 41
HEDGES, F., Bacterial Wilt of Bean, 433
HEDRICK, E. R., Graphic Analytic Method, 401
HERING, C., Paracelsus Library, 514
HERRICK, G. W., Fernald's Applied Entomology, 182
Hesperopithecus, H. F. OSBORN, 463
HEYL, P. R., Gravitational Absorption, 349
HIBBERT, H., Alkali and Cellulosic Materials, 428
HILDEBRAND, J. H., Training Scientists, 355
History of Science, P. B. McDONALD, 73, 122
HOE, K. S., Barley, 378
HOFFMAN, F. L., Organization of Knowledge, 247, 279; Sec. K—Social and Economic Sciences, 521
HOLLOWAY, T. E., Louisiana Entomol. Soc., 436
HOLMES, A. D., Digestibility of Butter, 659
HOLTE, H. O., Mass of Electron at Slow Velocity, 647
HOOKER, H. D., Jr., Horticulture, 384
HOWARD, L. O., Carpenter on Insect Transformation, 50
Howe, Henry Marion, WM. CAMPBELL, 631

HOWES, H. L., Emission Bands of Erbium Oxide, 53
HRDLÍČKA, A., Scientific Work in Russia, 618
HUGGINS, M. L., Atomic Structure, 459; Benzene, 679
Human Yolk Sac, F. T. LEWIS, 478
HUNTER, W. D., J. D. MITCHELL, 469
HUTCHISON, C. B., Genetics, 416
HYDE, R. E., Immune Hemolytic Sera, 541
Hydra in Lake Erie, W. A. CLEMENS, 445
Hydrogen, Electrode, J. R. HAAG, 460; in Tungsten Furnace, O. F. DUFFENDACK, 210
Hygiene, Institute of, in London, 310

Ice and Humphry Davy, A. T. JONES, 514
Individualism in Medical Education, A. C. EYCLESHYMER, 437
Influenza in Pacific Islands, H. E. CRAMPTON, 90
Inheritance in Swine, A. M. CARR-SAUNDERS, 19
International Congress of History of Medicine, 635
Iodides, J. F. MCCLENDON, 358

JEFFREY, E. C., Angiosperms, 517; Cytology of Vegetable Crystals, 566
JENKINS, A. E., New Sclerotina on Mulberry, 353
JENNINGS, O. E., Streams of Long Island, 291
Johns Hopkins University, 257
JONES, A. T., Ice and Humphry Davy, 514
JONES, D. F., Selective Fertilization, 348
JONES, L. T., Sealing Tungsten into Pyrex, 352; Mass of Electron at Slow Velocity, 647
JORDAN, D. S., John Casper Branner, 340

KAEMPFERT, W., Writing Popular Science, 621
KAHN, M., Vocabulary of Metabolism, 704
Kaiteur Falls, A. C. HARDY, 643
KEEN, W. W., Evolution, 603
KELLOGG, V., Concilium Bibliographicum, 11; University Professors in Poland, 430, 704; Am. Com. to Aid Russian Scientists, 667
KELLY, J. P., Coloration in Phlox, 245
Keys in Systematic Work, E. B. WILLIAMSON, 703
Kilobar, Kilocal, Kilograd, A. MCADIE, 207
KINDLE, E. M., Evolution, 374
KNIPP, C. T., Mercury Vapor Pumps, 183
Knowledge, Organization of, F. L. HOFFMAN, 279
KRAATZ, W. C., Museum Pests, 644
KUNKEL, L. O., Ameboid Bodies, 73
KUNZ, G. F., Lacroix on Déodat Dolomieu, 209

Laboratory Determinations, H. G. TURNER, 53
Lactrodictus Mactans, J. R. WATSON, 539
LAMSON-Scribner, F., Arg. Rural Soc., 119
Language, International, S. W. STRATTON, 166, 457
LARSELL, O., Biological Researches of Gustaf Retzius, 515
LARSEN, J. A., Soil Shifting and Deposits, 457
League of Nations, Health Organization of, 540
Leaves, Vein-Islets of, H. M. BENEDICT, 399
LEWIS, F. T., Human Yolk Sac, 478; Spiral Trend of Intestinal Muscle Fibers, 704
Library, Paracelsus, C. HERING, 514
Liesegang Ring Formation, H. A. MCGUIGAN, 99
Light, Lectures on at Univ. of Wisconsin, 312
LILLIE, F. R., and K. F. BASCOM, Free-martin and Interstitial Cells, 624
LINDSEY, J. B., Sodium Hydrate and Grain Hulls, 131
LITHIUM, R. W. G. WYCKOFF, 130

- LITTLE, H. P., Geography, 362
 LIVINGSTON, B. E., Water Cultures, 483; Salt Lake City Meeting, 450, 633; Meeting of Exec. Com. of A. A. A. S., 680
 LOEB, L., Stereotropism, 22
 LONGLEY, A. E., Angiosperms, 517
 LORENTZ, H. A., Research in N. Bridge Laboratory, 334
 Lowell, Percival, J. R., 50
 Luminescence, E. L. NICHOLS, 157
- McADIE, A., Kilobar, Kilocal, Kilograd, 207; Atmospheric Pollution, 596
 MACARTHUR, J. W., Acid on Ciliary Action, 625
 McCLENDON, J. F., Are Iodides Food? 358
 McCLEUNG, C. E., Sharp's Introduction to Cytology, 482
 McDONALD, P. B., History of Science, 73; Writing of Popular Science, 621
 McGUIGAN, H. A., Liesegang Ring Formation, 99
 McLENNAN, J. C., Atomic Nuclei, 291
 MAHIN, E. G., Science of Athletics, 523
 MAILLARD, J., Sound Location in Birds, 208
 Mammalogists, Society of., 626
 MANN, A., Water-Immersion Objectives, 539
 MARTIN, G. W., Butyl Alcohol, 429
 MARTIN, H. T., Footprints in Kansas, 99
 Mathematical, Amer., Soc., R. G. D. RICHARDSON, 354, 600, 472; Association of America, W. D. CAIRNS, 599; Projects, H. E. SLAUGHT, 146; Publications, 508
 Mathematics, Reorganization of, 172
 MATTHEW, W. D., Fossil Vertebrates at Stuttgart, 156
 MAVOR, J. W., Production of Non-Disjunction by X-Rays, 295
- Medical Association, American, 613
 Medicine, Third Int. Congress of History of, 590
 MEISINGER, C. L., Sky Brightness, 20; Temperatures in United States, 292; Streamflow, 622
 Mendel Centennial, G. H. SHULL, 392
 MENZIES, A. W. C., Gels, Forms of Gas and Liquid Cavities in, 75
- Mercury Vapor Pumps, C. T. KNIPP, 183
 MERRILL, G. P., Meteorites, 675
 Metabolism, Vocabulary of, M. KAHN, 704
 METCALF, M. M., Penard on Flagellates, 74
 Meteorites, G. P. MERRILL, 675
 Meteorological Soc., Amer., C. F. BROOKS, 636
 Meteorology and Climatology, C. L. MEISINGER, 20, 292, 622
 Metric Standardization, E. C. BINGHAM, 232, 664; H. RICHARDS, 515; F. A. HALSEY and H. P. BUSCH, 400
 Microscopic Sections, G. H. NEEDHAM, 72
 MILLER, A. M., Kentucky and Evolution, 178, 316; New Catastrophism, 701
 MILLER, S. R., Clinical Medicine, 577
 MILLIKAN, R. A., Acceptance of Norman Bridge Laboratory, 330
 Mitchell, J. D., W. D. HUNTER, 469
 MITCHELL, S. A., Pickering Memorial, 467
 Montellius, Oscar, N. C. NELSON, 68
 Mosquito Attractant, S. E. CRUMB, 446
 Mount Everest Expedition, 342
 Mulberry, New Sclerotina on, E. A. SIEGLER and A. E. JENKINS, 350
 Muscle Fibers, Spiral Trend of Intestinal, F. T. LEWIS, 704
- Museum, of Natural History, Amer., 311; Gifts to, 695; R. C. ANDREWS, 584; Pests, W. C. KRAATZ, 644
 Mutant, Haploid in Jimson Weed, A. F. BLAKE-SLEE, J. BELLING, M. E. FARNHAM and A. D. BERGNER, 646
 Mycology, Review of, 561
- National, Academy of Sciences, Bache Fund, 173; E. E. SLOSSON, 465, 486; Grants for Research, 563; Research Council, Fellowships of, 561; M. F. GUYER, 636; Chairmen, 637
 Naturalists, Amer. Soc., A. F. SHULL, 105; Assoc. in Pekin, 392
 Nectarina in Texas, F. C. PELLETT, 644
 NEEDHAM, G. H., Protection of Microscopic Sections, 72
 Neuromotor Apparatus of Paramecium, C. W. REES, 184
 NICE, L. B., Oklahoma Academy of Science, 461
 NICHOLS, E. L., Emission Bands of Erbium Oxide, 53; Luminescence, 157
 NICHOLS, G. E., Deam's Trees of Indiana, 20
 NOICE, HAROLD, Copper Eskimos, 611
 Norman Bridge Laboratory, Dedication, N. BRIDGE, R. A. MILLIKAN, G. E. HALE, H. A. LORENTZ, 327
 NOYES, H. A., Cultivation and Soil Moisture, 610
- Observation vs. Experimentation, J. STEBBINS, 29
 OLMSTED, J. M. D., Ciliary Action, 625
 Origin of Species, D. S. JORDAN, 642
 O'ROKE, E. C., Crayfish Trap, 677
 OSBORN, H. F., Robert Hanham Collyer, 72; Lost Foxhall Jaw, 128; William Bateson on Darwinism, 194; Hesperopithecus, 463
- PALMER, F., Jr., Rotertia, 317
 Paramecium, C. W. REES, 184
 PARSONS, C. L., Amer. Chem. Soc., 23, 77, 132, 185, 212, 307, 343
 Pasteur Centenary, A. BONAZZI, 50
 PEARL, R., Stefansson's The Friendly Arctic, 320
 PEARSON, R. A., Agricultural Research, 229
 PELLETT, F. C., Nectarina in Texas, 644
 PENLAND, C. W. T., Angiosperms, 517
 Pension and Insurance Plan at Princeton University, 694
 PETERSON, P. P., Soil Deposition, 102
 PHALEN, W. C., Potash Salts, 479
 Philippines, Public Health-Work, 15
 PHILLIPS, J. C., Animal Experimentation, 48
 Philosophical Soc., Amer., A. W. GOODSPEED, 649
 Phlox, Full Coloration in, J. P. KELLY, 245
 Photoperiodism, W. W. GARNER, H. A. ALLARD, 582
 Physical Soc., Amer., 424
 Physics, Advances in, C. BARUS, 19; British Institute of, 612
 Physiology, W. FLETCHER, 551
 Pickering Memorial, S. A. MITCHELL, 467
 Pigments, Yellow, G. B. RIGG, 101
 Plants, Devonian, G. R. WIELAND, 427
 Poland, University Professors in, V. KELLOGG, 430, 704
 Porto Rico, Flora of, 470
 Potash Salts, W. C. PHALEN, 479
 Prehistoric Studies in France, 122
 Proturans, Nearctic, H. E. EWING, 706
 Psychological Corporation, 169, 448

- Psychology as a Career, C. E. SEASHORE, 381
Publication Economy, 181
Public Health and Medical Practice, W. G. THOMPSON, 18
- Rabbit, Vienna White, W. E. CASTLE, 269, 429
Radio Service of Univ. of Wisconsin, 613
Ramsay Memorial, 236
RAND, H. W., Sec. F—Zool. Sciences, 572
Ray, Society, W. T. CALMAN, 156; Giant, E. W. GUDGER, 338
RECORD, S. J., Woods, 266
REES, C. W., Paramecium, 184
Relativity and Star Diameters, R. A. FESSENDEN, 180
Research, Funds of U. S., J. A. UDDEN, 51; in Agriculture, A. F. WOODS, 64; R. A. PEARSON, 229; 202; British Industrial Fatigue Board, 368; National Council, Medical Fellowships of, 369; Earning Power of, 376; On Ice Age, 391; Factor of Safety in, A. F. SHULL, 497; Fellowships in Mining, 533; Grants for, 409; By National Academy of Sciences, 563; Institutes, F. C. WOOD, 657; Maintenance of Scientific, C. S. SHERRINGTON, 629
RESSLER, O. L., Tipburn, 53
Rhodesian Skull, 129
RICHARDS, H., Metric Campaign, 515
RICHARDSON, R. G. D., Amer. Math. Soc., 354, 600
RIGG, G. B., Yellow Pigments, 101
RITTER, W. E., Evolution, 398
Rockefeller Foundation Gift, 234, 588
ROEVER, W. H., Graphic Analytic Method, 401; Grants for Research, 519
Rogers, William Barton, Science Hall, 121
ROSEN, H. R., Fuller's Scale, 76
Roteria, F. PALMER, JR., 317
Royal, Photo. Soc., 257; Acad. of Belgium, 670
Russian Bureau of Applied Botany, D. N. BORODIN, 129
- Sands, Molding, 367
SCHUCHERT, C., Clarke on James Hall of Albany, 243
Science, in Agriculture, E. W. ALLEN, 6; in U. S., J. ERLANGER, 135; in Philippines, J. C. Witt, 197; California Academy of, G. D. HANNA, 305; Oklahoma Academy of, L. B. NICE, 461; Illinois State, 589; or Athletics, E. G. MAHIN, 523; Writing Popular, N. E. DORSEY, 374, 593; W. E. ALLEN, 454; E. E. SLOSSON, 241, 480; J. O'H. COSGRAVE, 593; W. KAEMPFERT, P. B. McDONALD, 621; Social and Economic, F. L. HOFFMAN, 521
Scientific, Notes and News, 15, 45, 69, 96, 124, 150, 173, 203, 237, 259, 288, 312, 344, 370, 394, 424, 451, 473, 510, 534, 563, 590, 614, 637, 672, 697; Exhibit of Amer. Med. Ass., 613; Instruments, 200; British Journals of, 201; Papers, Publication of, W. J. CROZIER, 388; 562; Periodicals, 67, 171; Side, 430; Societies, English, 258; Work in Russia, A. HRDLICKA, 618
Scientists, Training, J. H. HILDEBRAND, 355; Am. Com. to Aid Russian, V. KELLOGG, 667
Scott, John, Medal Fund, 344
Seals, Fur, G. D. HANNA, 505
SEASHORE, C. E., Psychology as a Career, 381
Sera, Standards, 44; Immune Hemolytic, R. R. HYDE, 541
Sheffield Scientific School, Dean of, 671
Sheldon Memorial, 235
SHERRINGTON, C., Maintenance of Scientific Research, 629
SHULL, A. F., Amer. Soc. Naturalists, 105; Federation of Biological Societies, 245; Factor of Safety in Research, 497
SHULL, G. H., Mendel Centenary, 392
SIEGLER, E. A., New Sclerotina on Mulberry, 350
Sky Brightness, C. L. MEISINGER, 20
SLAUGHT, H. E., Mathematical Projects, 146
SLOSSON, E. E., Writing Popular Science, 241, 480; National Academy of Sciences, 465
SMITH, A. W., 121
SMITH, G. O., Geologic Diffusion, 596
SMITH, HUGH M., Spencer F. Baird Memorial, 634
Sodium Hydrate and Grain Hulls, J. B. LINDSEY, 131
Soil, Deposition in Palouse Area of Wash. and Idaho, P. P. PETERSON, 102; J. A. LARSEN, 457; Hydrogen-Ion Concentration of, P. S. BURGESS, 647; Colloids, N. E. GORDON, 676
Solar Energy, F. B. DANIELS, 618
Species, Pure and Impure, B. M. DAVIS, 107
Spiders, Poisonous, F. R. WELSH, 49
Standardization of Industries, 285, 310
STEBBINS, J., Observation vs. Experimentation, 29; Amer. Astronomical Soc., 298; Grants for Research, 256, 409
Stereotropism, L. LOEB, 22
STRATTON, S. W., Int. Auxiliary Language, 166; Charles W. Waidner, 389
Streams, Deflection of, by Earth Rotation, W. M. DAVIS, 478; of Long Island, O. E. JENNINGS, 291; Flow Experiment, C. L. MEISINGER, 622
Sudhoff's Paracelsus, F. H. GARRISON, 155
Suter, Heinrich, F. CAJORI, 447
- Temperatures in U. S., C. L. MEISINGER, 292
Thermel, W. P. WHITE, 617
Thompson, Caroline Burling, T. E. S., 40
THOMPSON, W. G., Public Health, 18
Tilth, Value of, J. ALEXANDER, 156
Tipburn, F. A. FENTON and O. L. RESSLER, 53; J. R. EYER, 180
TITCHENER, E. B., Wilhelm Wundt, 129
Topography, Acoustic, C. BARUS, 321
TRELEASE, S. F., Water Cultures, 483
Tropical Research Station, H. F. O., 254
TRUE, R. H., Calcium for Higher Green Plants, 1
Tungsten, Sealing into Pyrex, L. T. JONES, 352; Decomposition of, G. L. WENDT, 567
Tuning Fork, C. K. WEAD, 73
TURKEY, H. B., Fruit Trees, 241
TURNER, H. G., Laboratory Determinations, 53
- UDDEN, J. A., Research Funds of U. S., 51
Universities, Doctorates Conferred by, C. HULL and C. J. WEST, 271
University, and Educational Notes, 18, 48, 71, 99, 127, 154, 177, 206, 240, 262, 291, 316, 347, 372, 397, 427, 454, 477, 513, 537, 565, 593, 617, 642, 675, 701; Kentucky, Sigma Xi at, 671; McGill, Sigma Xi at, 449; Michigan, 448; Stanford, 423; Wisconsin, 312; Radio Service of, 613; Colloid Chemistry at, 393; Yale, 13, 696; Forestry Building, 287; School of Forestry, 203, and Dr. Chittenden, 393; Dr. White's Gift to Morgantown and Univ. of Va., 93.

- Vienna, C.-E. A. WINSLOW, 363
Vivisection, Cardinal Dougherty on, 150
- Waidner, Charles W., S. W. STRATTON, 389
Wundt, Wilhelm, E. B. TITCHENER, 129
Water, Cultures, S. F. TRELEASE and B. E. LIVINGSTON, 483; Immersion Objectives, A. MANN, 539
Washington Univ. School of Medicine, Student Grades at, M. F. WEYMANN, 690
WATSON, J. R., *Lactrodectus Mactans*, 539
WEAD, C. K., Tuning Fork, 73
Weeds, S. F. BLAKE, 455
WELSH, F. R., Poisonous Spiders, 49
WENDT, G. L., Decomposition of Tungsten, 567
WEYMANN, M. F., Student Grades at Washington Univ. School of Medicine, 690
WEYMOUTH, F. W., Decerebration in Birds, 538
WHERRY, E. T., Soil Acidity and Plant Distribution, 568
WHITE, W. P., Thermel, 617
WHITTLE, C. L., Banding of Birds, 233
- WIELAND, G. R., Devonian Plants, 427
WIGGLESWORTH, E., Animal Experimentation, 48
WILLIAMS, S. R., Section B—Physics, 520
WILLIAMSON, E. B., Keys in Systematic Work, 703
WINSLOW, C.-E. A., Vienna, 363
WITT, J. C., Science in Philippines, 197
WOOD, F. C., Research Institutes and Their Value, 657
Woodborer, Long-lived, A. B. CHAMPLAIN, 49
WOODS, A. F., Research in Agriculture, C
WOODS, S. J. RECORD, 266
WYCKOFF, R. W. G., Transmuting Lithium, 130
WYLIE, R. W., Sec. G—Bot. Sciences, 573
- X-Rays, Production of Non-Disjunction by, J. W. MAJOR, 295
- Y-chromosome Type, W. E. CASTLE, 703
- Zoologists, Amer. Soc., W. C. ALLEE, 159; L. J. COLE, 326; All- Russian Congress, 392