

SCIENCE

NEW SERIES. VOLUME LXXVI

JULY-DECEMBER, 1932

NEW YORK
THE SCIENCE PRESS
1932

THE SCIENCE PRESS PRINTING COMPANY
LANCASTER, PA.

CONTENTS AND INDEX

NEW SERIES. VOL. LXXVI—JULY TO DECEMBER, 1932

THE NAMES OF CONTRIBUTORS ARE PRINTED IN SMALL CAPITALS

- Abel, J. J., Philip A. Conné Medal, 620
 Academies, Financing the, G. E. JOHNSON, 373
 Academy, of Science, Illinois, H. R. WANLESS, 16; New Hampshire, G. W. WHITE, 16; North Carolina, H. R. TOTTEN, 124; of Sciences, Vienna, 138; of Sciences, National, 518, 543, 570
 Addison's Disease, Blood in, R. F. LOEB, 420
 Agriculture, Dept. of, Economy Measure, 116
 AITKEN, R. G., Eclipse Expedition, 112
 Aitken, R. G., Double Stars, C. P. OLIVIER, 103
 ALEXANDER, J., Professor Troland and Dr. Kunz, 255
 Algebra, The World, G. A. MILLER, 14
 ALLEN, W. E., Microscopic Sediments, 572
 Alpha Chi Sigma, Twelfth Biennial Conclave, 28
 Amborn, R., Geophysics and Explorations for Minerals, Oil and Gas, W. D. LAMBERT, 35
 American, Association for the Advancement of Science, Syracuse Meeting, C. F. ROOS, 63; Pacific Division, J. M. LUCK, 303; Atlantic City Meeting, Hotel Headquarters, 377, Symposia, 440, General Lectures, 471, Medical Sciences, 493, Mathematics, Physics and Astronomy, 517, Social Sciences, 542, Biological Sciences, 568, Registration and Railway Rates, C. F. ROOS, 570, 599; Press Service, A. H. CLARK, 600; Exhibition, Science, F. C. BROWN, 601; Century of Progress Meeting and Foreign Guests, 484; Institute, Junior Science Clubs, 290
 ANDERSON, C. D., Easily Deflectable Positives, 238
 ANDERSON, J. E., Triplets, 517
 Anemia, Pernicious, W. F. HERRON and W. S. McELROY, 127; Nutritional, in Rats, R. S. HARRIS, 495
 Animal Experimentation, 438
 Anopheles quadrimaculatus, M. F. BOYD, 370
 Anthropological Research, F. BOAS, 605
 Antigen-Antibody Combination, G. SHWARTZMAN, 127
 Ants, Swarming of, J. H. FURBAY, 367; Primitive, of Australia and Their Colonies, W. M. WHEELER, 532
 Apparatus Stand and Truck, R. W. SHAW, 258
 APPEL, J. E., Counting Sand Grains, 58
 Aquatic, Animals, Measuring Mass of, C. M. BREDER, JR., and C. W. COATES, 388; Media and Circulation, F. H. MCCUTCHEON, 416
 Astronomical Union, International, 117
 Austin, Louis Winslow, L. J. BRIGGS, 137
 Autoclaves, Regulator for, N. F. CONANT, 522
 Awards, John Scott, 50; Royal Geographical Society, 29
 B. Shigae, Motion Pictures of, R. W. G. WYCKOFF, 240
 Bacteria, in Eggs of Mosquitoes, E. H. HINMAN, 106; in Anthracite, H. G. TURNER, 121; Agar Digesting, H. E. GORESLINE, 255; as Food, G. E. MACGINITIE, 490
 Bacterial, Products, E. W. DENNIS, 599; Growth, H. H. WALKER, 602
 Bacteriology, Medical, W. H. MANWARING, 41
 Bacteriophage, Polyvalent Staphylococcus, M. L. RAKIETEN, 85
 Baer's Law, I. P. TOLMACHOFF, 516
 BAKER, R. H., Velocities of Stars, J. H. MOORE, 491
 BAKER, W. C., Glass Plate Floating on Mercury, 279
 BALCH, H. E., Cultivation of Nyctotherus ovalis, 237
 Balfour, Andrew, Memorial, 429
 Bangs, Outram, J. L. PETERS, 337
 BARBOUR, T., Wild Beasts, H. J. SHEPSTONE, 490
 BARKER, L. F., William Sydney Thayer, 617
 Basin Range Types, W. M. DAVIS, 241
 BAUMANN, C. A., and H. STEENBOCK, Vitamin A, 417
 BAXTER, G. P., and C. M. ALTER, Atomic Weight of Lead, 524
 BEACH, F. E., Electric Clocks, F. HOPE-JONES, 467
 BEACH, J. R., Laryngo-Tracheitis of Chickens, 260
 BEAUMONT, A. B., and G. M. KARNS, Iodide Fertilizer, 567
 BEEBE, W., Exploration of the Deep Sea, 344
 "Berlese Funnel," A. P. JACOT, 299
 BILLS, C. E., and F. G. McDONALD, The Carotene Content of Carrots, 108
 Bindings, Book, J. P. SANDERS, 277
 Biochemical Research, J. W. HILL, 218
 Biological, Laboratories, Harvard, G. H. PARKER, 158; Societies, Placement Bureau of, 163; Station, Reelfoot Lake, 208; Research, Laboratory for, 248; Marine, Plymouth, 586; Sciences, Nat. Research Fellowships, 588; Laboratory Apparatus, E. C. JEFFREY, 597
 BIRKHAUG, K. E., Bacterial Cultures, 236
 Birth Selection, Birth Control, H. F. OSBORN, 173
 BISSONNETTE, T. H., Sexual Periodicity, 253
 BLACKWELDER, E., Paleozoic Glaciation in Alaska, 212; The Age of Meteor Crater, 557
 BLAIR, A. W., S. MATTSO and S. A. WAKSMAN, K. K. Gedroiz, 400
 BLAKE, C. H., Cordylophora, 345
 BLANK, I. H., Hanging Drop Technique, 496
 Blatchley, W. S., My Nature Nook, B. W. EVERMANN, 57
 BLISS, G. A., Ernest Julius Wilczynski, 316
 BLOCH, R. G., Control of Ultra-Violet Ray Lamps, 125
 Blood, Testing the pH of, D. DuBois, 441
 BLUNT, G. M., Chromosomes of Zea mays, 372
 BOAS, F., Anthropological Research, 605
 BOGERT, M. T., Vitamin A, 475
 BOND, W. R., Make-break Stimulus Selector, 146
 Botanical Survey, Caribbean, 430
 BOYD, M. F., Anopheles quadrimaculatus, 370
 Brandenburg, H., Trigonometric Tables, F. SCHLESINGER, 216
 BRASCH, F. E., Robert Boyle, J. F. FULTON, 595
 BREDER, C. M., JR., and C. W. COATES, Measuring Mass of Aquatic Animals, 388
 BRESSMAN, E. N., Spillman on Plant Breeding, 273
 BREUKELMAN, J., Daphnids and Mercuric Chloride, 302
 BRIGGS, L. J., George Kimball Burgess, 46; Louis Winslow Austin, 137; Irwin Gillespie Priest, 162
 Briquet, John Isaac, H. A. GLEASON, 247
 British, Optical Industry, 115; Industrial Research, 458; Vital Statistics, 227; Science Guild, 401; Assoc., York Meeting, 188
 Bronchitis, Infectious and the Cloaca, C. B. HUDSON and F. R. BEAUDETTE, 34
 BROOKS, S. T., Fresh-water Medusae, 465
 BROWN, F. C., The Science Exhibition at Atlantic City, 601
 BROWN, F. M., and R. W. WILLIS, Bas-Relief Molds, 573
 BROWNE, C. A., Priority in Discoveries, 454
 Burgess, George Kimball, L. J. BRIGGS, 46
 Busts of Scientific Men, C. D. SNYDER, 386
 CAHN, A. R., G. I. WALLACE and L. J. THOMAS, Disease of Moose, 385
 CALDWELL, W. E., and H. C. MOLOY, Sexual Variations in the Pelvis, 37
 California, Academy of Sciences, Lectures, 362; Expedition of, G. D. HANNA, 375; Univ. of, Dept. of Physics, 188; Building for Entomology, 290; Entomological Work, 402; Inst. of Technology, Cryogenic Laboratory, 380
 CAMERON, H. C., Ferrous Iodide and Vitamin A, 18
 CAMP, C. L., Evolution, A. N. SEWERTZOFF, 411

- Cancer and Microbial Metabolism, A. J. KLUYVER, 527
 Carnegie Corporation, Appropriations, 484
 CARROLL, W. R., Cross-inoculation Studies, 15
 Carrots, the Carotene Content of, C. E. BILLS and F. G. McDONALD, 108
 CASTLE, W. E., Growth Rates, 259; 365
 Celery Mosaic Control, F. L. WELLMAN, 390
 Cellophane, and Mica, W. E. HAMMOND, 125; Use for, K. L. WARREN, 573
 Centrosomes, Mitochondria as, H. G. COAR, 464
 Century of Progress Exposition, Addresses, R. C. DAWES, 21; H. CREW, 22; F. B. JEWETT, 23; and Amer. Ceramic Soc., 319; Meeting of Amer. Assoc., Foreign Guests at, 484
 CHAPMAN, J. E., Water Soluble Magnesium in Soils, 83
 Chemical, Soc., Amer., Denver Meeting, 76; Physics, Journal of, 138; Societies, British Union of, 162
 Chemistry, Literature of, J. N. SWAN, 169
 Chemists and Chemical Engineers, Unemployment, 10, 339, 561
 CHI, C., Explorations in China, 539
 CHIDESTER, F. E., Vitamin A, 436
 China, Scientific Work in, 458; Explorations, C. CHI, 539; H. F. OSBORN, 540
 CHITTENDEN, R. H., Frank Pell Underhill, 457
 Chromosomes, of Zea mays, G. M. BLUNT, 372; Compound, E. R. HELWIG, 352
 Chrysanthemum Production, E. J. STARKEY, 594
 Cl. welchii, Dissociation of, J. H. ORR and G. B. REED, 392
 CLARK, A. H., Press Service at Atlantic City, 600
 CLARK, H. L., Ancestry of Echini, 591
 CLOUDMAN, A. M., Mouse Tumor, 525
 COAR, H. G., Mitochondria as Centrosomes, 464
 Cobb, Nathan Augustus, G. STEINER, 8
 COBLENTZ, W. W., Congress on Light, 412
 COE, W. R., Sex Changes in the American Oyster, 125
 COLWELL, R. C., A Vacuum Tube Oscillator, 547
 CONANT, N. F., Regulator for Autoclaves, 522
 Congress and Research, 626
 CONKLIN, E. G., Genus Partula, H. E. Crampton, 409
 Constant Temperature Apparatus, R. F. PITTS, 626
 Construction Costs, 430
 COOK, D. H., and C. CINTRÓN, Tropical Storm, 541
 Cordylophora, C. H. BLAKE, 345
 Cornell Medical Center, 229
 Correction, C. R. LONGWELL, 123
 Correlation Curiosity, E. B. WILSON, 515
 Cosmic Rays, Survey, 116; and Newspapers, 276, 325
 COSTELLO, D. F., Inexpensive Reducing Lens, 219
 Cotton, Wild, Seed Transmission, J. J. TAUBENHAUS and W. N. EZEKIEL, 61; Plants, and Ammonium Hydroxide, L. G. WILLIS and W. H. RANKIN, 214; A. F. KIDDER, 295
 Counting Sand Grains, J. E. APPEL, 58
 Crampton, H. E., Genus Partula, E. G. CONKLIN, 409
 CRAWFORD, H. J., Association to Aid Scientific Research by Women, 492
 CREW, H., Century of Progress Exposition, 22
 Crystalline d-Mannuronic Acid, K. P. LINK, 386
 Cultivation of Nyctotherus ovalis, H. E. BALCH, 237
 Culture Methods, J. G. NEEDHAM, 464
 Cultures, Bacterial, K. E. BIRKHAUG, 236
 CULVER, G. E., A Meteor in Wisconsin, 295
 Curve-fitting Machine, W. L. GAINES and J. R. PALFREY, 472
 Cysteine, Oxidation of, E. G. GERWE, 100
 Dairy Science Publication, 163
 Daphnids and Mercuric Chloride, J. BREUKELMAN, 302
 DAVIS, B., The Physical World, 613
 DAVIS, W., Pointers for Stars, 274
 DAVIS, W. M., Basin Range Types, 241
 DAWES, R. C., Century of Progress Exposition, 21
 DEACON, W. E., Longevity of Serratia Marcescens, 274
 Deep Sea, Exploration of, W. BEEBE, 344
 DELLENBAUGH, F. S., The Painted Desert, 437
 DENNIS, E. W., Bacterial Products, 599
 Depancreatized Dogs, G. H. TUTTLE, 15
 Dermatitis, P. A. MUNZ, 194; H. J. WEBBER, 324
 DIACK, H., and C. E. SMITH, Electrical Potential and the Physiological Gradient, 198
 Dobell, C., Antony van Leeuwenhoek, E. FRANCIS, 597
 Doctorates Conferred, C. J. WEST and C. HULL, 296
 DODGE, R., and F. H. J. NEWTON, Tambour Diaphragms, 36
 Doodle-bugs and Law-makers, J. F. McCLENDON, 81
 Dormancy in Tilia Seeds, J. N. SPAETH, 143
 Downey, June Etta, R. S. UHRBROCK, 585
 DREOSTI, G. M., Volumeters, 598
 Drosophila, Mounting, J. T. PATTERSON, 258; Spermatozoa, R. B. HOWLAND, 624
 DuBois, D., Testing the pH of Blood, 441
 DuBois, E. F., Graham Lusk, 113
 DUNN, E. R., Frogs of Okefinokee Swamp, Georgia, A. H. Wright, 104
 Earth Rotation and River Erosion, H. L. FAIRCHILD, 423; River Deflection, 625; A. T. JONES, 540
 Echini, The Ancestry of, H. L. CLARK, 591
 Echinorhynchus sagittifer Linton, E. LINTON, 193
 Eclipse, Expedition, R. G. AITKEN, 112; F. SLOCUM, 135; A. M. SKELLETT, 169; J. P. SCHAFER and W. M. GOODALL, 444
 Eclipses, Future, C. H. SMILEY, 113
 Education and Research, F. H. SEARES, 87
 EDWARDS, H. M., Growth of Stalagmites, 367
 EDWARDS, P. R., and W. W. DIMOCK, Streptococci of Animal Origin, 107
 Electric, Lighting Plant, First, 229; Company, General, and Dr. Whitney, 431
 Electrical, Congress, International, 139; Potentials and Chemical Reactivity, L. KAHLBERG, 353
 Electricity, Treatment of, A. ZELENY, 336
 Electrodialysis Apparatus, A. LÖDDESÖL, 83
 Embryological Technique, G. W. D. HAMLETT, 237
 Encephalomyelitis in the Chicken, E. E. JONES, 331
 Engineering, Power and Mechanical, Exposition, 483
 Engineer's Outlook, A. EWING, 199
 Entomologists, European Trip of, 402
 ENZMANN, E., Mouse Cage, 496
 Epyris, Stinging, E. O. ESSIG and A. E. MICHELbacher, 407
 Esmeralda Formation of Nevada, R. A. STIRTON, 60
 ESSIG, E. O., and A. E. MICHELbacher, Stinging Epyris, 407
 Eugenics and Genetics Congresses, Dinner for, 140
 EVERMANN, B. W., My Nature Nook, W. S. Blatchley, 57
 Evermann, Barton Warren, G. D. HANNA, 317
 Evolution of the Proboscidea, H. F. OSBORN, 501
 EWING, A., An Engineer's Outlook, 199
 Expanding Universe, H. P. ROBERTSON, 221
 Expedition, North India, of Yale Univ., 9, 534; Greenland, of Univ. of Mich., 29; Sven Hedin's, 228; Zoological, to China, 340; of Calif. Acad. of Sci., G. D. HANNA, 375
 Eye, Movements, F. P. ROBINSON and P. G. MURPHY, 171; Spots, Human, L. O. HOWARD, 409
 FAIRCHILD, H. L., Earth Rotation and River Erosion, 423; River Deflection, 625
 Fertilizer, Iodide, A. B. BEAUMONT and G. M. KARNS, 567
 Fibroblasts, R. C. PARKER, 219, 446
 Field Museum, Collections of, 249
 Fire Blight, H. R. ROSEN, 447
 FLEMING, J. A., American Geophysical Union, 346
 Fluids, Change of, J. H. WALKER, Jr., 18
 Forest Planting, by State Departments, 361
 FOYE, W. G., Intercollegiate Geological Excursion, 465

- FRANCIS, E., Antony van Leeuwenhoek, C. Dobell, 597
Franklin Institute Refracting Telescope, 619
FRIEDMAN, B., and J. ZIZMOR, Cellular Débris in the Guinea-pig, 497
Fulton, J. F., Robert Boyle, F. E. BRASCH, 595
Fundamental Particles, The, R. M. LANGER, 294
Fungi of Gosio, C. THOM and K. B. RAPER, 548
FURBAY, J. H., Swarming of Ants, 367
- GAINES, W. L., and J. R. PALFREY, Curve-fitting Machine, 472
GALTISOFF, P. S., and R. O. SMITH, American and Japanese Oysters, 371
GATES, W. H., "Nembutal" as an Anesthetic, 349
GAY, F. P., Science in Medical Education, 109
Gedroiz, K. K., A. W. BLAIR, S. MATTSON and S. A. WAKSMAN, 400
GELPI, A. J., JR., and E. D. DEVEREUX, Treating Milk, 391
Genetics, International Congress of, 95, Dinner, 140, C. C. LITTLE, 368; The Rise of, T. H. MORGAN, 261, 285
Geographic Names, Foreign, 360
Geographical Soc., Royal, Awards of, 29
Geological, Congress, International, 28; Survey, U. S., Economies Imposed on, 77, 535, 587; Excursion, Intercollegiate, W. G. FOYE, 465
Geology, at the Atlantic City Meeting, 341; Study of, G. RICHARDS, 434
Geophysical Union, Amer., J. A. FLEMING, 346
German Scientific Men and Physicians, 509
Germination Tests, P. C. WAKELEY, 627
GEROULD, J. H., William Patten, 481
GERWE, E. G., Oxidation of Cysteine, 100
Gherardi, B., Edison Medal, 562
Glacial Stagnation, K. VER STEEG, 516
Glaciation, Paleozoic, E. BLACKWELDER, 212
GLEASON, H. A., John Isaac Briquet, 247
GORESLINE, H. E., Agar Digesting Bacteria, 255
GORTON, F. R., William Hittell Sherzer, 185
Grant, Ulysses Sherman, W. H. HAAS, 358
Grapefruit, Premature Flowering, C. N. MOORE and C. P. HASKINS, 167
GREENE, H. S. N., and W. H. BROWN, Skull of the Rabbit, 421
Gregory, John Walter, B. WILLIS, 184
Growth Rates, W. E. CASTLE, 259, 365
GUDGER, E. W., Shovel-nosed Sturgeon, 323
Guinea-pig, Vaginal Smears of the, B. FRIEDMAN and J. ZIZMOR, 497
GUNN, R., Sun's Atmosphere, 577
Gypsum, A Crystal Habit for, C. E. NEEDHAM, 542
- H., E., Ralph Hoffmann, 288
HAAS, W. H., Ulysses Sherman Grant, 358
Haber, Professor, Medal of the Royal Society, 620
Habrobracon, M. F. STANGATT, 197
Hale, George E., Medal of the Royal Society, 620
HAMILTON, W. J., JR., Material for Mammalogist, 55
HAMLETT, G. W. D., Embryological Technique, 237
HAMMOND, W. E., Cellophane and Mica, 125
Hanging Drop Technique, I. H. BLANK, 496
HANNA, G. D., Barton Warren Evermann, 317; The Templeton Crocker Expedition, 375
HARPER, H. J., Soluble Phosphorus in Soils, 415
HARRIS, G. D., Stratigraphic Nomenclature, 489
HARRIS, R. G., Vaginal Epithelium of Mice, 408
HARRIS, R. S., Nutritional Anemia in Rats, 495
Harvard Univ., Honorary Degrees, 10; Biological Laboratories, G. H. PARKER, 158; Oak Ridge Observatory, 229; Anthropological Survey of Irish Free State, 482; Hersey Professorship, 588
Hastilesia tricolor Stiles and Hassall, 1894, W. NOBLE and S. SMITH, 216
HELVIG, E. R., Compound Chromosomes, 352
Henry, Joseph, A. E. KENNELLY, 1
- Hens, Ruptured Yolk in, H. A. HOFFMAN, 489
HENWOOD, A., and R. M. GAREY, Kjeldahl Digestions, 524
HERON, W. T., W. J. INGLE and W. M. HALES, Work Output of Rats, 550
HERRICK, E. H., Twisted Trees, 406
HERRON, W. F., and W. S. McELROY, Pernicious Anemia, 127
Hexuronic Acid, E. K. NELSON, 345
HILL, J. W., Biochemical Research, 218
HINMAN, E. H., Bacteria in Eggs of Mosquitoes, 106
HOBBS, G. M., Photo-printing, 144
HOFFMAN, H. A., Ruptured Yolk in Hens, 489
Hoffmann, Ralph, E. H., 288
HOLM, G. E., and G. R. GREENBANK, Rancidity, 295
HOOKER, S. B., and W. C. BOYD, Serum Albumin and Serum Globulins, 517
Hookworm Eggs, Counting of, J. A. SCOTT, 170
Hope-Jones, F., Electric Clocks, F. E. BEACH, 467
Hormone-secreting Region in Grass Coleoptile, J. T. PERRY, 215
Houseflies, Rearing, H. H. RICHARDSON, 350
HOWARD, L. O., Human Eye Spots, 409
HOWLAND, R. B., Drosophila Spermatozoa, 624
HUBBS, C. L., and L. C. HUBBS, Parthenogenesis, 628
HUDGINS, C. V., and R. H. STETSON, Unit for Kymograph Recording, 59
HUDSON, C. B., and F. R. BEAUDETTE, Cloaca and Infectious Bronchitis, 34
HUESTIS, R. R., and E. BARTO, Yellow Peromyscus, 255
HUMOLLER, F. L., and W. C. AUSTIN, Sodium Burner, 105
HUMPHREYS, W. J., Meteorology, N. Shaw, 56
HUTCHINS, L. M., Peach Mosaic, 123
Hydrobiological Laboratory, J. G. NEEDHAM, 205
- Illinois, State Academy of Science, H. R. WANLESS, 16; Univ. and Tariff, 587
"Imageless Thought," L. W. MAX, 235
Indian Ocean, Survey of, 207
Infectious Laryngo-Tracheitis, J. R. BEACH, 260
Iron Toxicity from Liming, A. H. MEYER, 56
Isostasy, Pratt and Airy, and, A. C. LANE, 53
IVES, R. L., Volumes of Two Combining Streams, 324
- JACKSON, C. M., Thomas George Lee, 378
Jacoby, Harold, J. SCHILT, 359
JACOT, A. P., "Berlese Funnel," 299
JAMES, P. E., Limestone Caverns, 567
JEFFREY, E. C., Biological Laboratory Apparatus, 597
Jenkins Laboratory, Conn. Agr. Exp. Station, 381
JEWETT, F. B., Social Effect of Modern Science, 23
Johnson, Charles Willison, J. A. G. REHN, 226
JOHNSON, G. E., Financing the Academies, 373
JONES, A. T., Earth Rotation and River Erosion, 540
JONES, E. E., Encephalomyelitis in the Chicken, 331
JOSLYN, M. A., and G. L. MARSH, Orange Juice and Its Iodine Reducing Value, 82
Jurassic in Oklahoma, J. W. STOVALL, 122
- KAHLENBERG, L., Electrical Potentials and Chemical Reactivity, 353
KENNELLY, A. E., Joseph Henry, 1
Kepler, Johann, R. I. WOLFF, 596
KIDDER, A. F., Cotton Plant, 295
Kjeldahl Digestions, A. HENWOOD and R. M. GAREY, 524
KLUYVER, A. J., Microbial Metabolism and Cancer, 527
KOSTOFF, D., and J. KENDALL, Tetraploid Shoot, 144
KULP, W. L., and V. WHITE, Plating *L. acidophilus*, 17
Kunz, George Frederick, H. P. WHITLOCK, 75
Kymograph Recording, C. V. HUDGINS and R. H. STETSON, 59
- L. acidophilus*, Plating, W. L. KULP and V. WHITE, 17
L., P. N., William August Puckner, 379
LAMBERT, W. D., Geophysics and Explorations for Minerals, Oil and Gas, R. Ambron, 35

- LANDSTEINER, K., Horse Saliva, 351
 LANE, A. C., Pratt and Airy and Isostasy, 53
 LANGER, R. M., Fundamental Particles, 294
 Lantern Slide Technique, G. H. WEBBER, 84
 LA RUE, C. D., Device for Dissecting Microscope, 104
 Lead, Atomic Weight, G. P. BAXTER and C. M. ALTER, 524
 Lee, Thomas George, C. M. JACKSON, 378
 Legumes, Florida, Cross-inoculation, W. R. CARROLL, 15
 LEIFSON, E., Dissemination of Scientific Knowledge, 624
 Leningrad, Symposium at, 510
 Lens, Reducing, Inexpensive, D. F. COSTELLO, 219
 Lenzen, V. F., Physical Theory, L. PAGE, 145
 LEPESCHKIN, W. W., Necrobiotic Rays, 168, 409
 Light, Congress on, W. W. COLENTZ, 412
 LILLIE, R. S., Chemical Embryology, J. Needham, 386
 Limestone Caverns, P. E. JAMES, 567
 Linguistics, American, T. MICHELSON, 55
 LINK, K. P., Crystalline d-Mannuronic Acid, 386
 LINTON, E., Taxonomic Position, 193
 LITTLE, C. C., Congress of Genetics, 368
 LÖDDÉSÖL, A., Electrodialysis Apparatus, 83
 LOEB, R. F., Blood in Addison's Disease, 420
 Longevity of *Serratia marcescens*, W. E. DEACON, 274
 LONGWELL, C. R., Muddy Mountain Thrust, 99; A Correction, 123
 LUCK, J. M., Pacific Division of the American Association, 303
 LUSK, G., Max Rubner, 129
 Lusk, Graham, E. F. DUBOIS, 113
 McCLENDON, J. F., Doodle-bugs and Law-makers, 81
 McCULLAGH, D. R., Endocrine Activity of Testes, 19
 McCUTCHEON, F. H., Circulation and Aquatic Media, 416
 MACGINITIE, G. E., Bacteria as Food, 490
 MCKINLEY, E. B., Ultramicroscopic Virus Diseases, 449
 MCLEAN, F. T., Structure and Composition of Foods, A. L. WINTON and K. B. WINTON, 217
 MCMURTREY, J. E., JR., Thallium and Tobacco Plants, 86
 MCNAIR, J. B., Starch from Tropical and Temperate Climates, 83
 MAGATH, T. B., Clinical Pathology, 333
 Malaria at St. Croix, E. B. SHAW, 566
 Mammalogist, Source of Material, W. J. HAMILTON, JR., 55
 MANWARING, W. H., Medical Bacteriology, 41
 Map, Official, of the United States, 208
 Massachusetts Inst. of Technology, Finances, 511
 Mathematical Soc. Amer., Los Angeles Meeting, 291
 Mathematicians, International Congress of, D. E. SMITH, 468
 MAX, L. W., "Imageless Thought", 235
 Medical, Education, Science in, F. P. GAY, 109; Schools, 249, European, Degrees from, 360
 Medicine, History of, Congress of, 362; and Scientific Experiment, L. B. MENDEL, 393; Nobel Prize, 427
 Medusae, Fresh-water, S. T. BROOKS, 465
 Mees, Carl Leo, J. B. PEDDLE, 206
 Mellon Institute Lectures, 318
 MENDEL, L. B., Scientific Experiment and Medicine, 393
 Menzel, D. H., The Solar Chromosphere, J. Q. STEWART, 256
 Mercury, Glass Plate Floating on, W. C. BAKER, 279
 Meteor, in Wisconsin, G. E. CULVER, 295; Shower, Leonid, A. M. SKELLETT, 434; Crater, The Age of, E. BLACKWELDER, 557
 Meteorite from the Black Hills, C. C. O'HARRA, 34
 MEYER, A. H., Iron Toxicity from Liming, 56
 MEYER, M. F., Filtering Compound Sounds, 54
 Mice, Vaginal Epithelium of, R. G. HARRIS, 408
 MICHELS, N. A., Hermann von Wechlinger Schulte, 1876-1932, 137
 MICHELSON, T., American Linguistics, 55
 Michigan, Univ. of, Greenland Expedition, 29
 Microscope, Dissecting, C. D. LA RUE, 104; Rife, E. C. ROSENOW, 192
 Milk, Treating, A. J. GELPI, JR., and E. D. DEVEREUX, 391
 MILLER, G. A., The Word Algebra, 14
 MILLER, R. C., Vertebrate Zoology, C. A. Wood, 467
 Mind, Study of the, W. A. WHITE, 90
 Molds, Bas-relief, F. M. BROWN and R. W. WILLIS, 573
 MOORE, C. N., and C. P. HASKINS, Premature Flowering in Grapefruit, 167
 Moore, J. H., Radial Velocities of Stars, R. H. BAKER, 491
 Moose, Disease of, A. R. CAHN, G. I. WALLACE and L. J. THOMAS, 385
 MORGAN, T. H., The Rise of Genetics, 261, 285
 MORSE, P. M., Electric and Magnetic Susceptibilities, J. H. van Vleck, 326
 Mortality Statistics in the United States, 49
 MOSAUER, W., Locomotion of Snakes, 583
 Mouse, Cage, E. ENZMANN, 496; Tumor, A. M. CLOUDMAN, 525
 Moving Picture Film Adapter, S. E. OWEN, 443
 Muddy Mountain Thrust, C. R. LONGWELL, 99, 123
 MUNCH, R. H., Vacuum Distillations, 170
 MUNZ, P. A., Dermatitis Produced by Phacelia, 194
 Museums, Science, Cooperation of, 534
 Mycological Soc. of America, 341
 National, Academy of Sciences, 518, 543, 570; Research Council, Officers, 140, Grants-in-Aid, 164, Canadian, 245
 Necrobiotic Rays, W. W. LEPESCHKIN, 168, 409
 NEEDHAM, C. E., A Crystal Habit for Gypsum, 542
 Needham, J., Chemical Embryology, R. S. LILLIE, 386
 NEEDHAM, J. G., Hydrobiological Laboratory, 205; Culture Methods, 464; Thomas Say Foundation, 567
 NELSON, E. K., Hexuronic Acid, 345
 NELSON, V. E. and OTHERS, Mottled Teeth, 575
 "Nembutal" as an Anesthetic, W. H. GATES, 349
 New Hampshire Academy of Science, G. W. WHITE, 16
 Nobel Prize in Physiology and Medicine, 427
 NOBLE, W. and S. SMITH, *Hasstilesia tricolor* Stiles and Hassall, 1894, 216
 Nomenclature, Zoological, C. W. STILES, 35; H. C. OBERHOLSER, 121; Stratigraphic, G. D. HARRIS, 489
 North Carolina Academy of Science, H. R. TOTTEN, 124
 OBERHOLSER, H. C., Zoological Nomenclature, 121
 Observatory, Oak Ridge, of Harvard Univ., 229; W. J. McDonald, 268; David Dunlap, 289; Mount St. Katherine, 380
 Oenslager, George, Perkin Medal, 460
 O'HARRA, C. C., Meteorite from the Black Hills, 34
 OLIVIER, C. P., Double Stars, R. G. AITKEN, 103
 O'MALLEY, H., Nutrition of Trout, 593
 Optical, Industry, British, 115; and Physical Societies, British, 339
 Orange, Juice, and Iodine Reducing Value, M. A. JOSLYN and G. L. MARSH, 82; Satsuma, H. P. TRAUB and OTHERS, 298
 Ornithologists' Union, Amer., Annual Meeting, 511
 ORR, J. H., and G. B. REED, Dissociation of *Cl. welchii*, 392
 OSBORN, H. F., Birth Selection versus Birth Control, 173; Problems of Population, 437; Evolution of the Proboscidea, 501
 Oscillator, Vacuum Tube, R. C. COLWELL, 547
 Ouachita Project, R. S. YARD, 33
 OWEN, S. E., Moving Picture Film Adapter, 443
 Oysters, American and Japanese, P. S. GALTISOFF and R. O. SMITH, 371
 PAGE, L., Physical Theory, V. F. LENZEN, 145
 Painted Desert, National Monument, 318; F. S. DELLENBAUGH, 437
 Paleogeographic Wall Maps, L. T. PATTON, 474

- Paraffin Embedding, W. F. R. PHILLIPS, 547
Paralytic Shellfish Poison, H. SOMMER, 574
Parasitology, Journal of, 139
Paris, International Scientific Centers in, 186
PARKER, G. H., Harvard Biological Laboratories, 158
PARKER, R. C., Races of Fibroblasts, 219; Stability of, 446
Parsons, Charles L., Priestley Medal, 269
Parthenogenesis, C. L. HUBBS and L. C. HUBBS, 628
Parthenocarp and Seedlessness, H. M. PEARSON, 594
Pathology, Clinical, T. B. MAGATH, 333
Patten, William, J. H. GEROULD, 481
PATTERSON, J. T., Mounting *Drosophila*, 258
PATTON, L. T., Paleogeographic Wall Maps, 474
Peach Mosaic, L. M. HUTCHINS, 123
PEARSON, H. M., Parthenocarp and Seedlessness, 594
PEDDLE, J. B., Carl Leo Mees, 206
Pellagra, G. A. WHEELER, 101
Pennsylvania, Univ. of, and Morris Arboretum, 459
Perkin Medal, Award of, 460
PERLZWEIG, W. A., Activation of Urease, 435
Peromyscus, Yellow, R. R. HUESTIS and E. BARTO, 255
PERRY, J. T., Hormone-secreting Region in the Grass Coleoptile, 215
PETERS, J. L., Outram Bangs, 337
Pharmaceutical Convention, Canadian American, 117
PHILLIPS, P. H., Plasma Phosphatase, 239
PHILLIPS, W. F. R., Paraffin Embedding, 547
Phosphorus, Soluble, in Soils, H. J. HARPER, 415
Photomicrographs, M. H. STOW, 277
Photomicrography of Living Cells and Micro-incineration and Ultra-violet Light, G. H. SCOTT, 148
Photo-printing, G. M. HOBBS, 144
Phycomycetes, R. L. TODD, 464
Physical, Laboratory, British National, 48; and Optical Societies, British, 339; World, B. DAVIS, 613
Physics, Cyrus Fogg Brackett Professorship of, 96; Department of, at Univ. of California, 188
Physiological Gradient and Electrical Potential, H. DIACK and C. E. SMITH, 198
Physiology, Nobel Prize in, for 1932, 427
PIKE, F. H., Vitalism, Mechanism and Organicism, 384
PITTS, R. F., Constant Temperature Apparatus, 626
Plant, Breeding, Spillman's Work on, E. N. BRESSMAN, 273; Nutrition, R. W. THATCHER, 281; Tissues, Vitamins in, J. E. RICHARDSON and H. L. MAYFIELD, 498
Plasma Phosphatase, P. H. PHILLIPS, 239
Polar Year, International, 187, 402; Canadian Participation in, A. THOMSON, 275
Poliomyelitis, A. C. SILVERMAN, 345
Population, Problems of, H. F. OSBORN, 437
Positives, Easily Deflectable, C. D. ANDERSON, 238
POTTER, M. T., Vitamin A-Free Casein, 195
Poultry, Quill Mite of, R. E. REBRASSIER and E. D. MARTIN, 128
PRATT, F. H., Thebesian System of the Heart, 488
Prehistoric Sciences, Congress of, 94
Priest, Irwin Gillespie, L. J. BRIGGS, 162
Princeton, Institute of Advanced Study at, 341; University, Brackett Professorship of Physics, 96
Priority in Discoveries, C. A. BROWNE, 454
Psychological Assoc., Amer., Ithaca Meeting, 50
Puckner, William August, P. N. L., 379

Rabbit, Skull of, H. S. N. GREENE and W. H. BROWN, 421
RAKIETEN, M. L., Polyvalent Staphylococcus Bacteriophage, 85
Ramsperger, Herman Carl, R. C. TOLMAN, 92
Rancidity, G. E. HOLM and G. R. GREENBANK, 295
Rats, Work Output of, W. T. HERON, W. J. INGLE and W. M. HALES, 550
REBRASSIER, R. E., and E. D. MARTIN, Quill Mite of Poultry, 128
Recreation Areas, Municipal, 267

REED, G. B., The Tubercle Bacillus, 366
REED, L. L., L. B. MENDEL and H. B. VICKERY, Ferrous Iodide, Linoleic Acid and Vitamin A, 300
REESE, A. M., Snake Venom, 234
REHN, J. A. G., Charles Willison Johnson, 226
RICH, A. R. and OTHERS, Whooping Cough, 330
RICHARDS, G., Geology, Study of, 434
RICHARDS, W. T., Velocity of Sound in Solids, 36
RICHARDSON, H. H., Rearing Houseflies, 350
RICHARDSON, J. E. and H. L. MAYFIELD, Vitamins in Plant Tissues, 498
River Deflection, H. L. FAIRCHILD, 625
ROBACK, A. A., Leonard Thompson Troland, 26
ROBERTSON, H. P., The Expanding Universe, 221
ROBINSON, F. P. and P. G. MURPHY, Measuring Eye Movements, 171
Rockefeller, Institute, Appointments and Promotions, 30; 250; Foundation, Work of, 438
ROOS, C. F., Syracuse Meeting of the American Association, 63; Atlantic City Meeting, Hotel Headquarters, 377; Symposia, 440, General Lectures, 471, Medical Sciences, 493, Mathematics, Physics and Astronomy, 517, Social Sciences, 542, Biological Sciences, 568, Registration and Railway Rates, 570, 599
ROSEN, H. R., Fire Blight, 447
ROSENOW, E. C., Rife Microscope, 192
Rubner, Max, G. LUSK, 129

Saliva, Horse, K. LANDSTEINER, 351
SANDERS, J. P., Book Bindings, 277
Say, Thomas, Foundation, J. G. NEEDHAM, 567
SCHAAR, B. E., Scientific Method and Social Relations, 551
SCHAFER, J. P. and W. M. GOODALL, Solar Eclipse, 444
SCHILT, J., Harold Jacoby, 359
SCHLESINGER, F., Trigonometric Tables, H. Brandenburg, 216
SCHMITT, O. H. A. and F. O. SCHMITT, Precision Stimulator, 328
Schulte, Hermann von Wechlinger, 1876-1932, N. A. MICHELS, 137
Science Service Conference: J. McK. CATTELL, S. FLEXNER, K. T. COMPTON, F. B. JEWETT, A. H. KIRCHHOFFER, J. C. MERRIAM, A. A. NOYES, R. P. SCRIPPS, E. B. WILSON, C. G. ABBOT, W. F. G. SWANN, 151; F. G. BENEDICT, P. R. HEYL, A. E. KENNELLY, C. R. STOCKARD, J. H. HILDEBRAND, T. W. VAUGHAN, F. P. KEPPEL, R. M. FIELD, J. F. HELLWEG, K. DUNLAP, W. H. HOWELL, 180
Scientific, Work, Appropriations for, 94; Leadership in Industry, 102; Discoveries, Patenting, E. L. SEVRINGHAUS, 233; Journals, Cost of, 267; Instruments, Review of, 535; Method and Social Relations, B. E. SCHAAR, 551; Bureaus, Federal, Reorganization, 560; Federal Budget for, 561; Work under the Government, 619; Knowledge, Dissemination of, E. LEIFSON, 624
SCOTT, G. H., Ultra-violet Light Photomicrography of Living Cells and Micro-incineration, 148
SCOTT, J. A., Counting of Hookworm Eggs, 170
Scott, Wilfred Welday, F. C. TOUTON, 93
SEARES, F. H., Education and Research, 87
Sediments, Microscopic, W. E. ALLEN, 572
Sera, Hemolytic and Precipitating, H. J. STAFSETH, 444
Serum Albumin and Serum Globulins, S. B. HOOKER and W. C. BOYD, 517
SEVRINGHAUS, E. L., Patenting Scientific Discoveries, 233
Sewertsoff, A. N., Evolution, C. L. CAMP, 411
Sex Changes in the American Oyster, W. R. COE, 125
Sexual, Variations in the Pelvis, W. E. CALDWELL and H. C. MOLOY, 37; Periodicity in Birds, T. H. BISSONNETTE, 253
Shales, Disintegration of, I. P. TOLMACHOFF, 147
SHAW, E. B., Malaria at St. Croix, 566
Shaw, N., Meteorology, W. J. HUMPHREYS, 56

- SHAW, R. W., Apparatus Stand and Truck, 258
 Shepstone, H. J., Wild Beasts, T. BARBOUR, 490
 Sherzer, William Hittell, F. R. GORTON, 185
 SHWARTZMAN, G., Antigen-Antibody Combination, 127
 Sigma Xi, Lectures at Univ. of Calif. at Los Angeles, 208
 SILVERMAN, A. C., Poliomyelitis, 345
 de Sitter, W., Kosmos, H. T. STETSON, 466
 SKELLETT, A. M., Solar Eclipse, 169; Leonid Meteor Shower, 434
 SLOCUM, F., Total Eclipse, 1932, 135
 SMILEY, C. H., Future Solar Eclipses, 113
 SMITH, D. E., International Congress of Mathematicians, 468
 Snake Venom, A. M. REESE, 234
 Snakes, Locomotion of, W. MOSAUER, 583
 SNYDER, C. D., Busts of Scientific Men, 386
 Sociology, Animal, at Harvard University, 319
 Sodium Burner, F. L. HUMOLLER and W. C. AUSTIN, 105
 Soils, Water Soluble Magnesium in, J. E. CHAPMAN, 83
 SOMMER, H., Paralytic Shellfish Poison, 574
 Sounds, Compound, Filtering, M. F. MEYER, 54
 Space Structure and Motion, G. STRÖMBERG, 477, 504
 SPAETH, J. N., Dormancy in *Tilia* Seeds, 143
 STAFSETH, H. J., Hemolytic and Precipitating Sera, 444
 Stalagmites, Growth of, H. M. EDWARDS, 367
 STANCATI, M. F., *Habrobracon*, 197
 Starch from Tropical and Temperate Climates, J. B. McNAIR, 83
 STARKEY, E. J., Chrysanthemum Production, 594
 Stars, Pointers for, W. DAVIS, 274
 STEINER, G., Nathan Augustus Cobb, 8
 STETSON, H. T., Kosmos, W. de Sitter, 466
 STEWART, J. Q., The Solar Chromosphere, D. H. MENZEL, 256
 STILES, C. W., Zoological Nomenclature, 35
 Stimulator, Precision, O. H. A. SCHMITT and F. O. SCHMITT, 328
 Stimulus Selector, Make-break, W. R. BOND, 146
 STETSON, R. A., Esmeralda Formation of Nevada, 60
 STOVALL, J. W., Jurassic in Oklahoma, 122
 Stow, M. H., Photomicrographs, 277
 Streptococci of Animal Origin, P. R. EDWARDS and W. W. DIMOCK, 107
 STRÖMBERG, G., Space Structure and Motion, 477, 504
 Sturgeon, Shovel-nosed, E. W. GUDGER, 323
 Sun's Atmosphere, R. GUNN, 577
 SWAN, J. N., Literature of Chemistry, 169
 SWAYZE, C. I., Vacuum Apparatus, 196
 Tambour Diaphragms, R. DODGE and F. H. J. NEWTON, 36
 TAUBENHAUS, J. J. and W. N. EZEKIEL, Seed Transmission of Cotton Wilt, 61
 Teaching Load in the Laboratory Sciences, 76
 Teeth, Mottled, in Iowa, V. E. NELSON and OTHERS, 575
 Testes, Endocrine Activity of, D. R. McCULLAGH, 19
 Tetraploid Shoot, D. KOSTOFF and J. KENDALL, 144
 THATCHER, R. W., Plant Nutrition, 281
 Thayer, William Sydney, L. F. BARKER, 617
 Thebesian System of the Heart, F. H. PRATT, 488
 Thermo-hygiene Laboratory, 268
 THOM, C. and K. B. RAPEL, Fungi of Gosio, 548
 THOMSON, A., International Polar Year, 275
 Tobacco Plants and Thallium, J. E. McMURTREY, JR., 86
 TODD, R. L., Phycomyces, 464
 TOLMACHOFF, I. P., Disintegration of Shales, 147; Baer's Law, 516
 TOLMAN, R. C., Herman Carl Ramsperger, 92
 TOTTEN, H. R., North Carolina Acad. of Science, 124
 TOUTON, F. C., Wilfred Welday Scott, 93
 TRAUB, H. P. and OTHERS, Satsuma Orange Juice, 298
 Trees, Twisted, E. H. HERRICK, 406
 Triplets, J. E. ANDERSON, 517
 Troland, Leonard Thompson, A. A. ROBACK, 26; Professor and Dr. Kunz, J. ALEXANDER, 255
 Tropical, Research, Laboratory for, 49; Storm, D. H. COOK and C. CINTRÓN, 541
 Trout, Nutrition of, H. O'MALLEY, 593
 Tubercle Bacillus, G. B. REED, 366
 TURNER, H. G., Bacteria in Anthracite, 121
 TUTTLE, G. H., Depancreatized Dogs, 15
 Typewriter, Expanding the, W. WENIGER, 389
 UHRBROCK, R. S., June Etta Downey, 585
 Ultra-violet Ray Lamps, Control of, R. G. BLOCH, 125
 Underhill, Frank Pell, R. H. CHITTENDEN, 457
 Urease, Activation of, W. A. PERLZWEIG, 435
 Vacuum, Distillations, R. H. MUNCH, 170; Apparatus, C. I. SWAYZE, 196
 Velocity of Sound in Solids, W. T. RICHARDS, 36
 VER STEEG, Underground Water, Level, 194; and Gasoline, 235; Glacial Stagnation, 516
 Vienna Academy of Sciences, 138
 Virus Diseases, Ultramicroscopic, E. B. MCKINLEY, 449
 Vital Statistics, British, 227
 Vitalism, Mechanism and Organicism, F. H. PIKE, 384
 Vitamin, A, in Rats, H. C. CAMERON, 18; -Free Casein, M. T. POTTER, 195; Ferrous Iodide and Linoleic Acid, L. L. REED, L. B. MENDEL, and H. B. VICKERY, 300; C. A. BAUMANN and H. STEENBOCK, 417; F. E. CHIDESTER, 436; M. T. BOGERT, 475; C. W. A. WAUGH and C. G. KING, 630
 van Vleck, J. H., Electric and Magnetic Susceptibilities, P. M. MORSE, 326
 Volumes of Two Combining Streams, R. L. IVES, 324
 Volumeters, G. M. DREOST, 598
 WAKELEY, P. C., Peat Mats for Germination Tests, 627
 WALKER, H. H., Bacterial Growth, 602
 WALKER, J. H., JR., Change of Fluids, 18
 WANLESS, H. R., Illinois State Academy of Science, 16
 WARREN, K. L., Use for Cellophane, 573
 Water, Level, Underground, K. VER STEEG, 194; and Gasoline, K. VER STEEG, 235
 WAUGH, W. A., and C. G. KING, Vitamin C, 630
 WEBBER, G. H., Lantern Slide Technique, 84
 WEBBER, H. J., Dermatitis, 324
 WELLMAN, F. L., Celery Mosaic Control, 390
 WENIGER, W., Expanding the Typewriter, 389
 WEST, C. J. and C. HULL, Doctorates Conferred, 296
 WHEELER, G. A., Pellagra, 101
 WHEELER, W. M., Primitive Ants of Australia, 532
 WHITE, G. W., New Hampshire Acad. of Science, 16
 WHITE, W. A., The Study of the Mind, 90
 WHITLOCK, H. P., George Frederick Kunz, 75
 Whitney, Dr., and General Electric Company, 431
 Whooping Cough, A. R. RICH and OTHERS, 330
 WIELAND, G. R., Wood Opalization, 278
 Wileczynski, Ernest Julius, G. A. BLISS, 316
 Wild Life Station, 248
 WILLIS, B., John Walter Gregory, 184
 WILLIS, L. G., and W. H. RANKIN, Ammonium Hydroxide and Cotton Plants, 214
 WILSON, E. B., Correlation Curiosity, 515
 Winton, A. L. and K. B., Foods, F. T. McLEAN, 217
 WOLFF, R. I., Johann Kepler, 596
 Women, Scientific Research by, Association to Aid, H. J. CRAWFORD, 492
 Wood, C. A., Vertebrate Zoology, R. C. MILLER, 467
 Wood Opalization, G. R. WIELAND, 278
 Wright, A. H., Frogs of Okefinokee Swamp, E. R. DUNN, 104
 WYCKOFF, R. W. G., B. Shigae, 240
 Yale Univ., North India Expedition of, 9, 534; Honorary Degrees, 10
 YARD, R. S., The Ouachita Project, 33
 ZELENY, A., Treatment of Electricity, 336
 Zoological Nomenclature, C. W. STILES, 35; H. C. OBERHOLSER, 121