

SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

NEW SERIES. VOLUME XXIX

JANUARY-JUNE, 1909

NEW YORK
THE SCIENCE PRESS
1909

THE NEW ERA PRINTING COMPANY,
41 NORTH QUEEN STREET,
LANCASTER, PA.

CONTENTS AND INDEX.

NEW SERIES. VOL. XXIX.—JANUARY TO JUNE, 1909.

The Names of Contributors are printed in Small Capitals.

- Aeronautics, G. O. SQUIER, 281
Agricultural Research Commission, 329
ALDRICH, J. M., Williston's N. A. Diptera, 898
ALLEN, J. A., Genera without Species, 934
Amanita, G. F. ATKINSON, 944
American Assoc. for the Advancement of Science, President's Address, 1; Baltimore Meeting, 41, 114, 144; Section C, 45, and Amer. Chem. Soc., 306; Section F, 53, 711; Section A, 81, 152; Section G, 91, 903; Section B, 161, 467; Section E, 201, 747; Section K, 241, 481, 484, 514, 521, 527; Section L, 361, 372, 401, 407, 872; Hawaiian Meeting, 414; Section H and Amer. Folk-Lore Soc., 508, 839; Section I, 561; Section D, 591
Amer. Museum of Natural History, 289
AMES, J. S., Text-books on Physics, 896
ANDREWS, E. A., William Keith Brooks, 31
Andrews, E. A., Crayfishes, A. H. HERRICK, 345
Angell, President, Resignation, 607
Anthropological Soc. of Wash., W. HOUGH, 238; J. R. SWANTON, 440, 480, 599, 717, "98, 918
Anthropology at the Amer. Assoc., G. G. MACCURDY, 508
Appointments in Universities, E. J. WILCZYNSKI, 336
ARNOLD, R., Geol. Soc. of Wash., 198, 239
Association of Teachers of Math., Middle States, E. R. SMITH, 276; Ohio, R. W. BUCK, 320
ATKINSON, G. F., Amanita, 944

Bacteriologists, Soc. of Amer., N. MACL. HARRIS, 1005
BAILEY, E. H. S., Sanitary Legislation, 729
BAILEY, V., Grinnell on Biota, 700
BAKER, C. W., Col. of Engineering, Northwestern Univ., 879
BALCH, F. N., Nomenclature, 998
BALDWIN, S. E., Münsterberg's On the Witness Stand, 301
BANKS, N., Notes on Entomology, 505
Banta, A. M., Fauna of Mayfield's Cave, H. C. HOVEY, 503
BARKER, F. D., Nebraska Acad. of Sci., 593
BARNETT, S. J., Kolbe on Electricity, 545
BARRELL, J., Research in China, 257
BASKERVILLE, C., Browning's Rarer Elements, 744
BAUER, L. A., Terrestrial Physics, 566
BAYLEY, W. S., Linck's Kristallographie, 666
BEAN, R. B., Heredity in Man, 942
BENEDICT, F. G., A Disclaimer, 107; Russian Research in Metabolism, 394
BERKEY, C. P., Geol. and Mineral, N. Y. Acad. of Sci., 120, 279
BESSEY, C. E., Botanical Notes, 78, 148, 189, 232, 550, 669, 702, 795, 821, 900, 1002; Phyletic Idea in Taxonomy, 91; Thaxter on Laboulbeniaceae, 580
Bessey, Professor, Banquet, 963
Bibliography on Science Teaching, 21
BIGELOW, M. A., Schmucker on Study of Nature, 618; Zoology at the Amer. Assoc., 711
Biographical Directory, J. McK. CATTELL, 699
Biological, Soc. of Wash., M. C. MARSH, 120, 277, 438, 557, 639, 676, 837; Station, Univ. of Mich., 851; Laboratory, Bureau of Fisheries at Woods Hole, F. B. SUMNER, 983
Biology and Medicine, Exper., Soc. for, W. J. GIES, 40, 200; E. L. OPIE, 559, 1013
BISELL, G. W., Mechanical Science and Engineering at the Amer. Assoc., 591
BLACKWELDER, E., Mars, 659
BOAS, F., Coefficient of Correlation, 823; Race Problems, 839
BOLLEY, H. L., Gray's Botany, 182
Bonney, S. G., Pulmonary Tuberculosis, N. P. RAVENEL, 298
Botanical, Notes, C. E. BESSEY, 78, 148, 189, 232, 550, 669, 702, 795, 821, 900, 1002; Soc. of Washington, W. E. SAFFORD, 159; of Amer., D. S. JOHNSON, 267
Botany at the Amer. Assoc., H. C. COWLES, 903
Böttger, W., Qualitative Analyse, E. RENOUF, 229
BOWMAN, I., and C. F. GRAHAM, Mississippi Channel, 418
Boyé, Martin Hans, 448
BOYNTON, H. C., Furman's Assaying, 463
Boys, City versus Country, F. A. WOODS, 577; W. J. SPILLMAN, 739
BRADLEY, J. C., Entomol. Soc. of Amer., 873
BRANT, L. C., Nucleation of Lecture Room, 796
BREWSTER, W., Otter in Massachusetts, 551
BRIGHAM, A. P., Assoc. of Amer. Geographers, 273
BRISTOL, C. L., Bermuda, 34
British Assoc., Anthropology at, H., 190; Winnipeg Meeting, 929; Trip to Alaska, 964
Brooks, William Keith, E. A. ANDREWS, 31; T. B. COMSTOCK, 614; Memorial, 222
BROWN, O. H., Enzymes of Ova, 824
BROWNE, C. A., Chemistry among Ancients, 455
Browning, P. E., Rarer Elements, C. BASKERVILLE, 744
BRYAN, J. A., Hawaiian Meeting of Amer. Assoc., 414
BUCK, R. W., Assoc. of Ohio Teachers of Math., 320
Building in Washington, 731
BURGESS, A. F., Amer. Assoc. of Econ. Entomologists, 479
C., G. N., Macfadyen on The Cell, 667
CAMPBELL, W., N. Y. Acad. of Sci., Astron., Physics and Chemistry, 39, 278
CAMPBELL, W. W., Spectrum of Mars, 500
CARLETON, M. A., Dondlinger on Wheat, 1000

- CARMAN, A. P., Crew's Mechanics, 579; Searle on Experimental Elasticity, 619
 Carnegie Foundation, 378; J. MCK. CATTELL, 532; and George Washington University, 964
 Carnivores, O. A. PETERSON, 620
 CARPENTER, R. C., Hutton's Mechanical Engineering, 544
 CASE, E. C., Chameleo Cristatus Stuch, 979
 CASTLE, W. E., Sex-heredity, 395, 699
 CATTELL, J. MCK., Amer. Scientific Productivity, 228; Carnegie Foundation, 532; Biographical Directory, 699
 CAULLERY, M., Alfred Giard, 70
 CHADWICK, G. H., The N. Y. Series, 77
 Chalk Formations of Texas, R. T. HILL, 972
 CHAMBERLAIN, A. H., The Technical College, 723; Webster on Primitive Secret Societies, 741
 Chameleo Cristatus Stuch, E. C. CASE, 979
 Chapman, F. M., Camps and Cruises of an Ornithologist, W. H. Osgood, 549
 Chemical Soc., Amer., C. L. PARSONS, 305, 808; and Sect. C., Amer. Assoc., B. E. CURRY, 306; and National Conservation Commission, 570; Summer Meeting, 850; Northeast Sect., K. L. MARK, 280, 597, 918; N. Y. Sect., C. M. JOYCE, 120, 200, 360, 560, 798, 950; of Wash., J. A. LECLERC, 240, 439, 718
 Chemistry, Applied, Int. Congress, 174, 849; Post-graduate Study, W. McMURTRIE, 601; Research, at Univ. of Ill., 357; among Ancients, C. A. BROWNE, 455; Agricultural, H. J. WHEELER, 647; Untilled Field of, A. D. LITTLE, 719
 Church, A. H., Roy. Soc. Archives, G. F. KUNZ, 350
 Church, I. P., Engineering, H. T. EDDY, 185
 CLARK, H. L., New Species, 420; Ptarmigan, 500
 Clark, L. P., and A. R. Diefendorf, Neurological and Mental Diagnosis, A. M., 112
 Cleavage in Hen's Egg, J. T. PATTERSON, 825
 Climates, Geological, H. F. REID, 27
 CLOSE, C. P., Soc. for Horticultural Sci., 274
 COCKERELL, T. D. A., Genera without Species, 339, 813; Fossil Gar-pike from Utah, 796
 COFFIN, J. G., Professors' Financial Position, 855
 COLE, A. D., Physics at the Amer. Assoc., 467
 COLE, F. N., Amer. Math. Soc., 117, 560, 797
 COLE, L. J., Lights Attracting Insects, 76
 College, American, and Life, A. FLEXNER, 361; J. ROYCE, 401; J. H. TUFTS, 407; Popularization of, W. N. RICE, 372; Technical, A. H. CHAMBERLAIN, 723
 Comet Morehouse, Spectrum of, E. B. FROST, J. A. PARKHURST, 36
 COMSTOCK, T. B., Crane on Gold and Silver, 389; William Keith Brooks, 614
 Conference of Governors of New England, J. CRAIG, 248
 Conservation Work, W. J. McGEE, 490, 539
 Convocation Week, W. TRELEASE, 182
 Correlation Coefficient, F. BOAS, 823
 COWLES, H. C., Botany at the Amer. Assoc., 903
 CRAIG, J., Conference of Governors of New England, 248
 CRANE, W. R., De Launay's World's Gold, 300
 Crane, W. R., Gold and Silver, T. B. COMSTOCK, 389
 Creatin and Creatinin, L. B. MENDEL, 584
 CREW, H., Albert B. Porter, 962
 Crew, H., Mechanics, A. P. CARMAN, 579; General Physics, J. S. AMES, 896
 CROWELL, J. F., Science and Investment, 561
 CURRY, B. E., Amer. Chem. Soc. and Sect. C., Amer. Assoc., 306
 CUSHMAN, A. S., Spalding on Roads and Pavements, 77; Forest Preservation, 383
 DAHLGREN, U., Schneider's Practicum der Tiere, 616
 DALL, W. H., Resultats du voyage du S. Y. Belgica, 421; Fru Signe Rink, 806
 Darwin Centenary, 330, 377, 449; at Cambridge, 100; Delegates, 807; Committee, C. B. DAVENPORT, 176; Lectures at Columbia Univ., 177; Anniversary at Chicago, 249; and Evolutionary Collections, B. G. WILDER, 458; Presentation of Bust, 992
 DAVENPORT, C. B., Darwin Anniversary Committee, 176; Family Records, 791
 Davenport, E., Breeding, E. M. EAST, 261
 Daylight Saving Bill, T. C. M., 973
 DEAN, B., Gaskell on Vertebrata, 816; American Eel, 871
 Deegener, P., Die Metamorphose der Insekten, W. M. WHEELER, 384
 De Launay, L., Gold, W. R. CRANE, 300
 DELOACH, R. J. H., Earle on S. Agriculture, 32
 Denudation, Geologic, E. E. FREE, 423
 DILLER, J. S., Wash. Acad. of Sci., 158, 358, 516
 Discharge, Electric, F. E. NIPHER, 237, 384
 Disclaimer, A.; F. G. BENEDICT, 107
 Discussion and Correspondence, 26, 76, 107, 143, 182, 227, 255, 296, 336, 383, 418, 455, 500, 543, 577, 614, 656, 698, 736, 790, 813, 855, 895, 932, 970, 997
 Dogs, Hybrid, R. R. GATES, 744
 Dolmäge, C. G., Astronomy, C. L. POOR, 349
 Dondlinger, P. T., Wheat, M. A. CARLETON, 1000
 Drawing with Microscope, W. A. RILEY, 37
 Duff, W., Physics, J. S. AMES, 896
 DUMBLE, E. T., Texas Tertiaries, 113
 DUNCAN, R. K., Industrial Fellowships, 736
 DUNCANSON, H. B., Mo. River Channel, 869
 DURAND, E. J., Mycological Nomenclature, 670
 EARLE, F. S., Science and Politics in Cuba, 501
 Earle, F. S., Southern Agriculture, R. J. H. DELOACH, 32
 Earthquake Forecasts, G. K. GILBERT, 121
 EAST, E. M., Davenport on Breeding, 261; Inheritance in Sweet Corn, 465
 EASTMAN, C. R., J. A. Gaudry, 138; Mylostomid Dental Plates, 997
 EDDY, H. T., Church's Engineering, 185
 Education, and the Trades, W. KENT, 77; W. J. SPILLMAN, 255; U. S. Bureau of, 498; Higher, G. H. MARX, 759; at Alaska-Yukon-Pacific Exposition, 806; at the Amer. Assoc., C. R. MANN, 872
 Eel, American, B. DEAN, 871
 Electrical Phenomena, H. PEMBERTON, JR., 143
 Elements, Transformation of, 582
 Eliot, C. W., Univ. Administration, D. S. JORDAN, 145; Retirement, 928
 Elisha Mitchell Sci. Soc., A. S. WHEELER, 40, 600, 918

- Embryology, M. M. METCALF, 738; Teaching, F. R. LILLIE, 932
 Engineering, Enrollment of Students, R. TOMBO, JR., 891
 Engineers of Wis. form State Society, 376
 Entomological Soc. of Amer., J. C. BRADLEY, 873
 Entomologists, Econ., Amer. Assoc. of, A. F. BURGESS, 479
 Entomology, Notes on, N. BANKS, 505
 Enzymes of Ova, O. H. BROWN, 824
 EWELL, M. D., Meter and Yard, 741
 Expedition, Indiana Univ., to British Guiana, 35; Shackleton's Antarctic, 606
 FARIS, R. L., Philos. Soc. of Wash., 38, 119, 519, 558, 600, 678, 836, 949
 Fats and Oils, Analysis of, 851
 FAY, H., Roscoe and Schorlemmer's Chemistry, 230
 Federation, Amer., of Teachers of Math. and Natural Sciences, C. R. MANN, 707
 Fellowships, Industrial, R. K. DUNCAN, 736
 Ferro-silicon, J. L. H., 583
 Financial Position of Professors, J. G. COFFIN, 855
 Fishes, New Jersey, H. W. FOWLER, 79, 544
 FLETCHER, A. C., Gilman's Hopi Songs, 977
 FLEXNER, A., The College and Amer. Life, 361
 Forest Preservation, A. S. CUSHMAN, 383
 Fossils, Marine, in W. Pa., P. E. RAYMOND, 940
 FOWLER, H. W., New Jersey Fishes, 79, 544
 FRANKLIN, W. S., LeBon on Evolution of Forces, 580; Gibson on Scientific Ideas of To-day, 937
 FREE, E. E., Geologic Denudation, 423
 FRIEDENTHAL, H., Experimental Physiology, L. B. MENDEL, 547
 FROST, E. B., and J. A. PARKHURST, Spectrum of Comet Morehouse, 36
 Furman, H. V. F., Assaying, H. C. BOYNTON, 463
 Gage, S. H., the Microscope, M. F. GUYER, 701
 Gairdner, Sir William, Papers, G. A. GIBSON, 1000
 Gar-pike, Fossil, T. D. A. COCKERELL, 796
 GARRETT, A. O., Utah Acad. of Sci., 797
 Gaskell, W. H., Vertebrata, B. DEAN, 816
 GATES, R. R., Hybrid Dogs, 744
 Gaudry, Jean Albert, C. R. EASTMAN, 138
 Genera without Species, T. D. A. COCKERELL, 339, 813; J. A. ALLEN, 934
 Geographers, Amer., Assoc. of, A. P. BRIGHAM, 273
 Geological, Soc. of Wash., R. ARNOLD, 198, 239; P. S. SMITH, 555, 946; F. E. MATTHES, 945, 948; Amer., E. O. HOVEY, 623; Problems, C. E. GORDON, 901
 Geology and Geog. at the Amer. Assoc., F. P. GULLIVER, 747
 George Washington University, 987
 Giard, Alfred, M. CAULLERY, 70
 Gibbs, Wolcott, T. W. RICHARDS, 101
 GIBSON, C. R., Scientific Ideas of To-day, W. S. FRANKLIN, 937
 GIBSON, G. A., Sir William Gairdner's Papers, 1000
 GIES, W. J., Soc. for Exper. Biol. and Med., 40, 200; Physiol. and Exper. Med. at the Amer. Assoc., 514
 GILBERT, G. K., Earthquake Forecasts, 121
 GILL, T., Selachians, 193
 Gilman, B. I., Hopi Songs, A. C. FLETCHER, 977
 GIRAULT, A. A., Future of Nomenclature, 813
 GOODALE, H. D., Sex and Barring Factor in Poultry, 1004
 GOODE, J. P., Baltimore Meeting of the Amer. Assoc., 114
 GORDON, C. E., Geological Problems, 901
 GORHAM, F. P., Winslow on Coccaceæ, 387
 GRABAU, A. W., N. A. Lower Paleozoic, 351
 GRAHAM, C. F., and I. BOWMAN, Mississippi Channel, 418
 GRATACAP, L. P., Bulletin of Amer. Museum of Nat. Hist., 826
 Grinnell, J., Biota, V. BAILEY, 700
 GULLIVER, F. P., Geology and Geography at the Amer. Assoc., 747
 GUTHRIE, C. C., Misleading Statements, 29
 GUYER, M. F., Hardesty's Histology, 501; Gage's Microscope, 701
 H., Anthropology at the British Assoc., 190
 H., C. W., Scheffer's Loose Leaf System, 581
 H., J. L., Ferro-silicon, 583
 Haeckel, E., Unsere Ahnenreihe, J. P. McM., 743
 HALE, G. E., Mt. Wilson Solar Observatory, 220
 Hann, J., Klimatologie, R. DEC. WARD, 791
 HANNA, F. W., Schuyler on Reservoirs for Irrigation, 792
 Hard, M. E., Mushrooms, R. J. POOL, 263
 Hardesty, I., Histology, M. F. GUYER, 501
 HARRIS, G. D., Magnetic Rocks, 384
 HARRIS, N. MACL., Soc. of Amer. Bacteriologists, 1005
 HAY, O. P., Fossil Turtles of N. A., 341
 HAYFORD, J. F., Col. of Engineering, Northwestern Univ., 887
 Heath, T. L., Euclid's Elements, C. J. KEYSER, 974
 HEKTOEN, L., Opsonins and other Antibodies, 241
 Heredity, Type, in Man, R. B. BEAN, 942
 HERICK, F. H., Andrews on Crayfishes, 345
 HILL, R. T., Chalk Formations of Texas, 972
 History and Biography, Chem., A. TUCKERMAN, 543
 HOFFMAN, A., Allen's Commercial Organic Analysis, 186
 HOFMAN, H. O., Ingalls on Lead and Zinc in U. S., 231
 HOLMES, W. H., Pan-Amer. Scientific Congress, 441
 Horticultural Sci., Soc. for, C. P. CLOSE, 274
 Hough, George Washington, G. J. HOUGH, 690
 HOUGH, T., Physiological Effects of Muscular Activity, 484
 HOUGH, W., Anthropol. Soc. of Wash., 238
 HOVEY, E. O., N. Y. Acad. of Sci., 79; Geol. Soc. of America, 623; Nelson's Loose Leaf Encyclopedia, 896
 HOVEY, H. C., Banta on Fauna of Mayfield's Cave, 503
 HOWE, M. A., Torrey Bot. Club, 318
 HUMPHREYS, W. J., Popular Science, 297
 HUNT, R., Amer. Physiol. Soc., 478
 HUSSAKOF, L., N. Y. Acad. of Sci., Biology, 479, 916

- Hutton, F. R., Mechanical Engineering, R. C. CARPENTER, 544
- IDDINGS, J. P., Igneous Rocks, 201
Iguanodont, Epidermis of, H. F. OSBORN, 793
Indiana Acad. of Sci., J. H. RANSOM, 118
Indians, Eastern Near-Arctic, A. SKINNER, 150
Ingalls, W. R., Lead and Zinc in U. S., H. O. HOFMAN, 231
Inheritance in Sweet Corn, E. M. EAST, 465
Insects, Guide to Study of, A. A. PACKARD, 108
Ions of the Atmosphere, J. A. POLLOCK, 919
Iowa Acad. of Sci., L. S. ROSS, 980
- JOCHELSON, W., Riabouschinsky Expedition, 303
Johannsen, A., Rock-forming Minerals, L. McL. L., 32, 791
Johns Hopkins Univ. Sci. Assoc., C. K. SWARTZ, 280
JOHNSON, D. S., Bot. Soc. of Amer., 267
Johnson, W. W., Differential Calculus, C. J. KEYSER, 974
Johnstone, J., Life in the Sea, W. E. RITTER, 461
JORDAN, D. S., Eliot and the American University, 145
JOYCE, C. M., Amer. Chem. Soc., N. Y. Sect., 120, 200, 360, 560, 798, 950
- Kansas Acad. of Sci., 275
KARPINSKI, L. C., Commission on Mathematics, 605
KEEN, W. W., Library Book-stacks, 973
KELLOGG, V. L., Ancient Man, 35
KENT, W., Education and the Trades, 77
KEYSER, C. J., Mathematical Books, 974
KNOWER, H. McE., Amer. Soc. of Naturalists, 707
Kolbe, B., Electricity, S. J. BARNETT, 545
KUNZ, G. F., Roy. Soc. Archives, 350
- L., L. McL., Johannsen's Rock-forming Minerals, 32, 791
Langley Medal, 292
LeBon, G., Evolution of Forces, W. S. FRANKLIN, 580
LECLERC, J. A., Chem. Soc. of Wash., 240, 439, 718
LEE, F. S., Physical Exercise, 521
LEWIS, F. T., Normentafel zur Entwicklungs-geschichte, F. Keibel, C. Elze, 939
Library Book-stacks, W. W. KEEN, 973
Life, Physical Basis of, V. C. VAUGHAN, 799
Lights Attracting Insects, L. J. COLE, 76
LILLIE, F. R., Spengel's Ergebnisse und Fort-schritte der Zoologie, 582; Embryology, 932
Lily Pistils, C. E. TEMPLE, 980
Linck, G., Kristallographie, W. S. BAYLEY, 666
Lincoln Schools of Science, 291
LIPPMAN, C. B., Bacteria of California Soils, 941
LITTLE, A. D., Untilled Field of Chemistry, 719
Locy, W. A., Biology, M. M. METCALF, 343
LOVEJOY, A. O., Wenley's Modern Thought, 818
LOVETT, E. O., Problem of Several Bodies, 81
LUTZ, A. M., Hybrid *Oenothera*, 263
LYON, T. L., Soil Investigation at Cornell, 621
- M., A., Clark and Diefendorf's Neurological and Mental Diagnosis, 112
M., T. C., Daylight Saving Bill, 973
McM., J. P., Poulton on Evolution, 109; Haeckel's Unsere Ahnenreihe, 743
McCLENDON, J. F., Yolk Platelets in Frog, 979
- McCOURT, W. E., St. Louis Acad. of Sci., 519, 594, 835
MACCURDY, G. G., Anthropol. at the Amer. Assoc., 508; Müller's L'Europe Préhistorique, 661
Macfadyen, A., The Cell, G. N. C., 667
MC GEE, W. J., Conservation Work, 490, 539
MACKENZIE, R. T., Physical Instruction, 481
MC MURTRIE, W., Post-graduate Study in Applied Chemistry, 601
Mammals in the Congress, 298
Man, Ancient, V. L. KELLOGG, 35
MANN, C. R., Amer. Federation of Teachers of Math. and Nat. Sciences, 707; Education at the Amer. Assoc., 872; Physics Teacher's Problem, 951
Marine Station, Puget Sound, 851
MARK, K. L., Amer. Chem. Soc., Northeast Sect., 280, 597, 918
Mars, Water Vapor in Atmosphere, F. W. VERY, 191; as the Abode of Life, E. BLACKWELDER, 659; Spectrum of, W. W. CAMPBELL, 500
MARSH, M. C., Wash. Biol. Soc., 120, 277, 438, 597, 639, 676, 837
MARX, G. H., Higher Education, 759
MASON, W. P., Richards's Water Analysis, 501; Sanitary Science, 641
Massachusetts Inst. of Tech., C.-E. A. WINSLOW, 296
Mathematical Soc., Amer., F. N. COLE, 117, 560, 797; Chicago Sect., H. E. SLAUGHT, 757
Mathematics and Astron. at the Amer. Assoc., G. A. MILLER, 152; Teaching, Commission on, L. C. KARPINSKI, 605
Matter and Energy, C. L. SPEYERS, 656
MATTHES, F. E., Geol. Soc. of Wash., 945, 948
MATTHEW, W. D., Amer. Soc. of Vertebrate Paleontologists, 194
Mechanical Science and Eng. at the Amer. Assoc., G. W. BISSELL, 591
MENDEL, L. B., Friedenthal's Physiology, 547; Creatin and Creatinin, 584
MERRIAM, C. H., Cal. Cave Skeletons, 805
METCALF, M. M., Locy's Biology, 343; Embryology, 738
Meter and Yard, M. D. EWELL, 741
Michigan Acad. of Sci., A. G. RUTHVEN, 877
Milky Way, 819
MILLER, D. C., Wind-instruments and Tone Quality, 161
MILLER, G. A., Math. and Astron. at the Amer. Assoc., 152; Voss, Ueber das Wesen der Mathematik, 392
Mississippi Channel, I. BOWMAN, C. F. GRAHAM, 418
Missouri River Channel, H. B. DUNCANSON, 869
Moon, Origin of, A. H. PATTERSON, 936
MORGAN, T. H., Sex Determination, 234
Morley Chem. Lab. of Western Reserve Univ., 25
MORSE, M., Dating of Publications, 384
Mosquito Extermination, 289
Mount Wilson Solar Observatory, G. E. HALE, 220
Miller, S., L'Europe Préhistorique, G. G. MAC CURDY, 661
Münsterberg, H., On the Witness Stand, S. E. BALDWIN, 301
Murray, D. A., Calculus, C. J. KEYSER, 974
Museums, Amer. Assoc. of, P. M. REA, 944

- National, Geographic Society, 21; Academy of Sciences, 706
- Naturalists, Amer. Soc. of, Presidential Address, D. P. PENHALLOW, 679; H. McE. KNOWER, 707
- Nebraska Acad. of Sci., F. D. BARKER, 593
- Nelson's Loose Leaf Encyclopedia, E. O. HOVEY, 896
- New York, Acad. of Sci., Astron., Phys. and Chem., W. CAMPBELL, 39, 278; Annual Meeting, E. O. HOVEY, 79; Geol. and Mineral., C. P. BERKEY, 120, 279; Biol., L. HUSSAKOF, 479, 916; Series, G. H. CHADWICK, 77
- NICHOLS, E. L., Science and Problems of Future, 1
- NIPHER, F. E., Momentum Effects in Electric Discharge, 237; Scientific Theories, 256; Electric Discharge, 384
- Nitrogen Atom, J. B. TINGLE, 393
- Nobel Prize, W. F. WILLCOX, 184
- Nobili, Dr. Giuseppe, 249
- Nomenclature, Mycological, E. J. DURAND, 670; Future of, A. A. GIRAUT, 813; Question, F. N. BALCH, 998; Personal Names in, X., 1000
- North America and Europe, A. F. K. PENCK, 321
- North Dakota Sci. Soc., 918
- Northwestern Univ., Col. of Engineering, C. W. BAKER, 879; J. F. HAYFORD, 887
- Nucleation of Lecture Room, L. C. BRANT, 796
- Observatory, U. S. Naval, M. UPDEGRAFF, 421
- Oklahoma, 730
- OPIE, E. L., Soc. for Exper. Biol. and Med., 559, 1013
- Opsonins, L. HEKTOEN, 241
- OSBORN, H. F., Epidermis of Iguanodont, 793; Philosophic Zoologist, 895
- OSGOOD, W. H., Chapman's Cruises of an Ornithologist, 549
- Otter in Massachusetts, W. BREWSTER, 551
- PACKARD, A. A., Professor Packard's Guide to Study of Insects, 108
- Paleontological Soc., 376
- Paleontologist, Vertebrate, Amer. Soc. of, W. D. MATTHEW, 194
- Paleozoic, Lower, of N. A., A. W. GRABAU, 351
- PARKHURST, J. A., and E. B. FROST, Spectrum of Comet Morehouse, 36
- PARSONS, C. L., Amer. Chem. Soc., 305, 808
- PATTERSON, A. H., Pinch-effect in Electric Sparks, 26; Origin of Moon, 936
- PATTERSON, J. T., Cleavage in Hen's Egg, 825
- PEMBERTON, JR., H., Electrical Phenomena, 143
- PENCK, A. F. K., North America and Europe, 321
- PENHALLOW, D. P., Functions and Organization of Amer. Soc. of Naturalists, 679
- PETERSON, O. A., Carnivores, 620
- Philosophical Soc. of Wash., R. L. FARIS, 38, 119, 519, 558, 600, 678, 836, 949; Amer., 826
- Physical Instruction, R. T. MACKENZIE, 481; T. HOUGH, 484; F. S. LEE, 521; T. A. STOREY, 527
- Physics, at the Amer. Assoc., A. D. COLE, 467; Terrestrial and Cosmical, L. A. BAUER, 566; Teacher's, C. R. MANN, 951
- Physiological Soc., Amer., R. HUNT, 478
- Physiology and Exper. Med. at the Amer. Assoc., W. J. GIES, 514
- PILLSBURY, W. B., Titchener's Psychology, 548
- Pinch-effect, A. H. PATTERSON, 26
- Pittier, H., Las Plantas Usuales de Costa Rica, W. E. SAFFORD, 187
- Pittsburgh Acad., Sect. of Biol., P. E. RAYMOND, 40, 440
- POLLOCK, J. A., Ions of the Atmosphere, 919
- POOL, R. J., Mushrooms, 263
- POOR, C. L., Dolmäge's Astronomy, 349
- Porter, Albert B., H. CREW, 962
- Poulton, E. B., Evolution, J. P. MCM., 109
- Preservatives, Food, J. F. SNELL, 970
- Problem of Several Bodies, E. O. LOVETT, 81
- Productivity, Scientific, J. MCK. CATTELL, 228
- Ptarmigan, H. L. CLARK, 500; and Sonnet, H. L. SEAVIER, 791
- Publications, Dating of, M. MORSE, 384
- Quotations, 108, 144, 184, 298, 342, 458
- Race Problems, F. BOAS, 839
- Radiation, J. M. SCHAEFER, 227
- Radium in Spiral Nebulae, M. B. SNYDER, 865
- RANSOM, J. H., Ind. Acad. of Sci., 118
- RAVENEL, M. P., Bonney on Tuberculosis, 298
- RAYMOND, P. E., Sect. of Biol., Pittsburgh Acad., 40, 440; Marine Fossils in W. Pa., 940
- REA, P. M., Amer. Assoc. of Museums, 944
- Records, Family, C. B. DAVENPORT, 791
- REED, H. F., Geological Climates, 27
- Reid, J. S., Mech. Drawing, F. N. WILSON, 422
- RENOUF, E., Böttger's Qualitative Analyse, 229
- Rhodes Scholarships, 330
- Riaboushinsky Expedition, W. JOCHELSON, 303
- RICE, W. N., Popularization of the College, 372
- RICHARDS, E. H., Snyder on Human Foods, 187
- Richards, E. H., Water Analysis, W. P. MASON, 501
- RICHARDS, T. W., Wolcott Gibbs, 101
- RILEY, W. A., Projection Microscope, 37
- Rink, Fru Signe, W. H. DALL, 806
- RITTER, W. E., Johnstone on Life in the Sea, 461
- Rocks, Igneous, J. P. IDDINGS, 201; Magnetic, G. D. HARRIS, 384
- Roscoe, H. E., and C. Schorlemmer, Chemistry, H. FAY, 230
- ROSS, L. S., Iowa Acad. of Sci., 980
- ROYCE, J., American College and Life, 401
- RUTHVEN, A. G., Mich. Acad. of Sci., 877
- SAFFORD, W. E., Bot. Soc. of Wash., 159; Pittier's Las Plantas Usuales de Costa Rica, 187
- St. Louis Acad. of Sci., W. E. McCOURT, 519, 594, 835
- Sanitary, Science, W. P. MASON, 641; Legislation in Kansas, E. H. S. BAILEY, 729
- SCHAEFER, J. M., Radiation, 227
- SCHIFFER, T. H., Looose Leaf System, C. W. H., 581
- Schmucker, S. C., Study of Nature, M. A. BIGELOW, 618
- Schuylar, J. D., Reservoirs, F. W. HANNA, 792
- Science, and Practical Problems of Future, E. L. NICHOLS, 1; Teaching as a Career, H. P. TALBOT, 45; Popular, W. J. HUMPHREYS, 297; and Polities in Cuba, F. S. EARLE, 501; by Cable, 540; and Investment, J. F. CROWELL, 561; Fair Play in, T. J. J. SEE, 858

- Scientific, Notes and News, 22, 71, 103, 140, 177, 223, 250, 292, 331, 379, 415, 449, 496, 540, 574, 608, 653, 694, 732, 787, 808, 852, 892, 929, 965, 993; Books, 32, 77, 109, 145, 185, 229, 257, 298, 343, 384, 421, 461, 501, 544, 579, 616, 661, 700, 741, 791, 816, 861, 896, 927, 974, 1000; Journals and Articles, 34, 78, 113, 148, 188, 232, 302, 392, 423, 504, 668, 702, 744, 792, 899; Work under U. S. Government, 217; Theories, F. E. NIPHER, 256; Congress, Pan-Amer., W. H. HOLMES, 441
- SEARLE, G. F. C., Elasticity, A. P. CARMAN, 619
- SEAVER, H. L., Ptarmigan and Sonnet, 791
- SEE, T. J. J., Fair Play in Science, 858
- Selachians, T. GILL, 193
- Sex, Determination, E. B. WILSON, 53; T. H. MORGAN, 234; Heredity, W. E. CASTLE, 395, 699; in Poultry, H. D. GOODALE, 1004
- Sexual Relations in Abraxas, E. B. WILSON, 704
- Shaw School of Botany, 693
- Skeletons, California Cave, C. H. MERRIAM, 805
- SKINNER, A., Eastern Near-Arctic Indians, 150
- SLAUGHT, H. E., Amer. Math. Soc., Chicago Sect., 757
- SMITH, E. R., Assoc. of Teachers of Matn., Middle States, 276
- SMITH, P. S., Wash. Geol. Soc., 555, 946
- SNELL, J. F., Food Preservatives, 970
- Snyder, H., Human Foods, E. H. RICHARDS, 187
- SNYDER, M. B., Radium in Spiral Nebulae, 865
- Societies and Academies, 38, 79, 118, 158, 198, 238, 275, 318, 358, 438, 479, 516, 555, 593, 630, 676, 717, 757, 797, 835, 877, 916, 945, 980, 1013
- Soils, Non-nitrifying, F. L. STEVENS, W. A. WITHERS, 506; Bacteria, C. B. LIPPMAN, 941
- Spalding, F. P., Roads, A. S. CUSHMAN, 77
- Special Articles, 36, 79, 113, 150, 191, 234, 263, 351, 395, 423, 465, 506, 551, 584, 620, 670, 704, 744, 796, 823, 865, 901, 940, 979, 1004
- Species, Naming, H. L. CLARK, 420
- SPEYERS, C. L., Matter and Energy, 656
- SPILLMAN, W. J., Education and the Trades, 255; Country Boy again, 739
- SQUIER, G. O., Aeronautics, 281
- STEVENS, F. L., and W. A. WITHERS, Non-nitrifying Soils, 506
- STOREY, T. A., Physical Instruction and Hygiene, 527
- SUMNER, F. B., Generic Names, 698; Biol. Lab. of Bureau of Fisheries at Woods Hole, 983
- SUMSTINE, D. R., Mucor Cultures, 267; Mushroom Spores, 621
- SWANTON, J. R., Anthropol. Soc. of Wash., 440, 480, 599, 717, 798, 918
- SWARTZ, C. K., Sci. Assoc. of Johns Hopkins Univ., 280
- SWINGLE, L. D., Doflein's Protistenkunde, 617
- T., W., Genera of African Plants, 111
- TALBOT, H. P., Science Teaching as a Career, 45
- TEMPLE, C. E., Lily Pistils, 980
- Thaxter, R., Laboulbeniaceae, C. E. BESSEY, 580
- Thompson, Elizabeth, Science Fund, 928
- Thommer, F., Blütenpflanzen Afrikas, W. T., 111
- Titchener, E. B., Psychology, W. B. PILLSBURY, 548
- TINGLE, J. B., the Nitrogen Atom, 393
- Tombo, Jr., R., University Registration, 10; Enrollment of Students of Engineering, 891
- Tone in Wind-instruments, D. S. MILLER, 161
- Torrey Bot. Club, P. WILSON, 160, 595, 640, 758, 798, 982; M. A. HOWE, 318
- TRELEASE, W., Convocation Week, 182
- TRUE, F. W., Killer Whale, 790
- TUCKERMAN, A., Chemical History, 543
- TUFTS, J. H., College Education and Life, 407
- Turtles, Fossil, O. P. HAY, 341
- Universities, Amer., Committee on Standards, 171
- University, Registration, R. TOMBO, Jr., 10; and Educational News, 25, 76, 106, 142, 181, 227, 254, 295, 335, 382, 418, 454, 499, 543, 577, 613, 655, 698, 735, 790, 812, 855, 894, 932, 969, 996
- UPDEGRAFF, M., Transit Circle of U. S. Naval Observatory, 421
- Utah Acad. of Sci., A. O. GARRETT, 797
- VAUGHAN, V. C., Physical Basis of Life, 799
- VERY, F. W., Atmosphere of Mars, 191
- Voss, A., Ueber das Wesen der Mathematik, G. A. MILLER, 392
- WARD, R. DEC., Hann's Klimatologie, 791; Annals of Astronomical Observatory of Harvard, 861
- WARDLE, H. N., Railroad Rates for Baltimore Meeting of the Amer. Assoc., 144
- Washington Acad. of Sci., J. S. DILLER, 158, 358, 516
- Webster, H., Primitiva Secret Societies, A. F. CHAMBERLAIN, 741
- Wenley, R. M., Modern Thought, A. O. LOVEJOY, 818
- Whale, Killer, on N. J. Coast, F. W. TRUE, 790
- WHEELER, A. S., Elisha Mitchell Sci. Soc., 40, 600, 918
- WHEELER, H. J., Agricultural Chemistry, 647
- WHEELER, W. M., Deegener on Die Metamorphose der Insekten, 384
- WILCZYNSKI, E. J., University Appointments, 336
- WILDER, B. G., Evolutionary Collections as Monuments to Darwin, 458
- WILCOX, W. F., Nobel Prize, 184
- Willis, B., Research in China, J. BARRELL, 257
- Williston, S. W., Diptera, J. M. ALDRICH, 898
- WILLSON, F. N., Reid's Mechanical Drawing, 422
- WILSON, E. B., Determination and Heredity of Sex, 53; Sexual Relations in Abraxas, 704
- WILSON, P., Torrey Bot. Club, 160, 595, 640, 758, 798, 982
- WINSLOW, C.-E. A., Massachusetts Inst. of Tech., 296; and A. R. WINSLOW, Coccaceæ, F. P. GORHAM, 387
- WITHERS, W. A., and F. L. STEVENS, Non-nitrifying Soils, 506
- Wood, R. W., Worthington on Splashes, 464
- WOODRUFF, L. L., Amer. Soc. of Zoologists, 424
- Woods, F. A., City and Country Boys, 577
- Worthington, A. M., Splashes, R. W. Wood, 464
- Wright, Professor Ramsay, Dinner to, 693
- X., Personal Names in Nomenclature, 1000
- Zoological Congress, International, 291
- Zoologist, Philosophic, H. F. OSBORN, 895
- Zoologists, Amer. Soc. of, L. L. WOODRUFF, 424
- Zoology at the Amer. Assoc., M. A. BIGELOW, 711