

SCIENCE

A WEEKLY JOURNAL
DEVOTED TO THE ADVANCEMENT OF SCIENCE

EDITORIAL COMMITTEE : S. NEWCOMB, Mathematics ; R. S. WOODWARD, Mechanics ; E. C. PICKERING, Astronomy ; T. C. MENDENHALL, Physics ; R. H. THURSTON, Engineering ; IRA REMSEN, Chemistry ; JOSEPH LE CONTE, Geology ; W. M. DAVIS, Physiography ; HENRY F. OSBORN, Paleontology ; W. K. BROOKS, C. HART MERRIAM, Zoology ; S. H. SCUDDER, Entomology ; C. E. BESSEY, N. L. BRITTON, Botany ; C. S. MINOT, Embryology, Histology ; H. P. BOWDITCH, Physiology ; J. S. BILLINGS, Hygiene ; WILLIAM H. WELCH, Pathology ; J. McKEEN CATTELL, Psychology ; J. W. POWELL, Anthropology.

NEW SERIES. VOLUME XII.

JULY-DECEMBER, 1900.

NEW YORK
THE MACMILLAN COMPANY
1900

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

CONTENTS AND INDEX.

N. S. VOL. XII.—JULY TO DECEMBER, 1900.

The Names of Contributors are Printed in Small Capitals.

- A., H. M., Botanical Club of Canada, 229
Academie dei Lincei of Rome, 490
Academies, International Association of, 273
Acoustics, Architectural, W. S. F., 489
Acquired Characters, C. G. S., 114
Aërial Voyage, The Longest, A. L. ROTCH, 930
Agricultural Education, W. J. BEAL, 328; Stations in Hawaii and Porto Rico, 531; Colleges and Experiment Stations, Association of, A. C. TRUE, 817
Agriculture, Annual Report of the Secretary of, 897
ALLEN, E. W., Agricultural Experiment Stations, A. C. True and V. A. Clark, 111
ALLEN, J. A., The Birds of Celebes, A. B. Meyer and L. W. Wiglesworth, 223
American Association for the Advancement of Science, 1, 4, 9, 12, 15, 41, 48, 81, 104, 263, 299
Animals, Wild, Protection of, in Africa, 275; Living, Importation of, 491; Names of, published by Osbeck, W. J. FOX, 716
Anthropological Section of the British Association, Address of the President, JOHN RHYS, 502; Collections in the American Museum of Natural History, 720; Society, German, 770
Anthropology, at the American Association, F. RUSSELL, 265; and Psychology at the N. Y. Academy of Sciences, C. H. JUDD, 729, 925
Appletree Canker, European, W. PADDOCK, 297
Aquila, A New Star in, E. C. PICKERING, 116
Arithmetical Note, C. A. SCOTT, 648
Astronomical and Astrophysical Society of America, GEO. C. COMSTOCK, 121, 171
Astronomy, The Teaching of, A. HALL, JR., 15; Address of the Chairman of the Department of, at the British Association, A. A. COMMON, 590; Physics and Chemistry at the N. Y. Academy of Sciences, W. S. DAY, 612, 849, 1007
ATKINSON, G. F., The Botanical Society of America, 677; American Fungi, 800
Atom, Structure of the, C. A. PERKINS, 368
Atomic Weights, Report of German Chemical Society, J. L. H., 246; International Commission on, J. L. H., 346
BAILEY, E. H. S., Chemical Laboratory of the University of Kansas, 997
Bailey's Cyclopedias of Horticulture, W. T., 226
Baird, Professor, Monument to, 156
BAKER, IRA O., Engineering Education, 666
Baker, R. S., Our New Prosperity, R. H. THURSTON, 762
BALDWIN, J. M. and OTHERS, A Disclaimer, 850
Ball, R. S., Theory of Screws, C. BARUS, 1001
BANCROFT, W. D., Anorganische Chemie, W. Ostwald, 722
BANKS, N., Camphor Secreted by an Animal, 649
BARUS, C., Interferences observed in viewing one coarse grating through another, and on the projection of one piece of Wire Gauze by a Parallel Piece, 617; Theory of Screws, R. S. Ball, 1001
BARRUS, G. S., Engine Tests, R. H. THURSTON, 802
BEAL, W. H., Irrigation, 674
BEAL, W. J., Agricultural Education, 328
Beddoe, F. E., Whales, H. C. BUMPUS, 726
Bell, A. G., and A. M. Sullivan, The Helen Keller Souvenir, W. K. BROOKS, 523
Belzung, E., Anatomie et physiologie végétale, D. T. MACDOUGAL, 444
BENEDICT, A. L., Buffalo Exposition, 271
BENSLEY, B. A., Inflection of the Angle of the Jaw in Marsupialia, 558
BESSEY, C. E., Botanical Notes, 74, 150, 451, 570, 649, 852, 890; N. A. Forests, E. BRUNCKEN, 110; Flora of Montana, per Axel Rydberg, 111
BIGELOW, M. A., Embryology of Lepas, 65; Zoology, C. B. and G. C. DAVENPORT, 442
Biological Laboratories, Inland, 436; Lectures (Woods Holl), C. B. DAVENPORT, 563; Society of Washington, F. A. LUCAS, 728, 807, 927, 965
Biology at the N. Y. Academy of Sciences, F. E. LLOYD, 729, 885
Birds, Protection and Importation of, 155; Three Forgotten Names of, W. J. FOX, 314
Birmingham, University of, R. H. THURSTON, 315
BOGERT, M. T., N. Y. Section of the American Chemical Society, 849
Botanical Terms, C. A. WHITE, 62; Notes, C. E. BESSEY, 74, 150, 451, 570, 649, 852, 890; Club of Canada, H. M. A., 228; Section of the British Association, Address of President, S. H. VINES, 459; Nomenclature, Method of Types, O. F. COOK, 475; Garden, N. Y., 651; Society of America, G. F. ATKINSON, 677
Botany at the American Association, D. T. MACDOUGAL, 577
Bottone, S. R., Wireless Telegraphy, F. L. T., 375
Bourne, G. C., Comparative Anatomy of Animals, J. S. KINGSLEY, 311
BRAY, W. L., Relations of N. American Flora to that of S. America, 708
Breaks, Street Car, R. H. THURSTON, 444
BRISTOL, C. L., Homing Instinct of a Turtle, 890
British Association, 334, 417, 459, 502, 590, 632, 745, 787; President's Address, W. TURNER, 337, 385
BRITTON, N. L., Torrey Botanical Club, 36
BROOKS, W. K., The Helen Keller Souvenir, A. G. Bell and A. M. Sullivan, 523; Marriages of the Deaf in America, E. A. FAY, 524
Brown, B. M., Physiology, F. S. LEE, 683
Bruncken, E., N. American Forests, C. E. BESSEY, 110

- Buckingham, E., Thermodynamics, J. E. TREVOR, 343
 Buffalo Exposition, A. L. BENEDICT, 271
 BUMPUS, H. C., Whales, F. E. Beddard, 726
 BURGESS, E. S., The Torrey Botanical Club, 687, 886
 Butler, N. M., Education in the United States, P. H. HANUS, 485
- C., H. W., Microorganisms and Fermentation, A. Jorgensen, 344
 CALKINS, G. N., Brook Trout Epidemic, 64
 Callosities upon Horses' Legs, LAWRENCE IRWELL, 113; W J McGEE, 194
 Cambridge Philosophical Society, R. S. W., 481
 CAMPBELL, M. R., and C. W. HAYES, Relation of Biology to Physiography, 131
 Camphor, Secreted by an Animal, O. F. COOK, 516; N. BANKS, 649
 CARHART, H. S., Imperial Physico-Technical Institution at Charlottenburg, 697
 Cars, Street, in Glasgow, 491
 Catalogue, International, of Scientific Literature, 77, 215; H. F. OSBORN, 113; R. RATHBURN, 270; MICHAEL FOSTER, 457
 CHAMBERLIN, T. C., and F. R. MOULTON, The Nebular Hypothesis, 201
 Chemical Literature, Report on Indexing, 130; Industry, Society of, 234; Section of British Association, Address of President, W. H. PERKIN, 632; Laboratory of the University of Kansas, E. H. S. BAILEY, 997; Society, N. Y. Section of, M. T. BOGERT, 849; DURAND WOODMAN, 849, 1008; Society of Washington, W. H. KRUG, 1005
 Chemistry, Bureau of, 116; Notes on Inorganic, J. L. H., 147, 194, 272, 314, 489, 530, 569, 731, 766, 931; at the American Association, A. A. NOYES, 263; Organic, The Revival of, H. N. STOKES, 537
 CHILD, C. M., Zoological Club of the University of Chicago, 228
 Christmas Island, WM. H. DALL, 225
 Cities, The Growth of, 960
 CLARKE, J. M., Siluro-Devonic Boundary, 406
 CLAYTON, H. H., Structure of the Corona, 146
 Coal Fields of China, 452
 Coast Survey, Superintendency and Organization, 765
 COCKERELL, T. D. A., American Hydroids, C. C. Nutting, 920; The Kieffer Pear and the San José Scale, 488
 COLE, F. N., Amer. Mathematical Society, 129, 764
 Coleoptera, Ulke Collection of, L. O. HOWARD, 918
 Color, Problem of, C. L. FRANKLIN, 408
 Colton, B. P., Physiology, F. S. LEE, 683
 COMMON, A. A., Address of the Chairman of the Department of Astronomy of British Association, 590
 COMSTOCK, GEO. R., Astronomical and Astrophysical Society of America, 121, 171
 CONKLIN, E. G., The Cell, E. B. Wilson, 109
 COOK, O. F., Method of Types in Botanical Nomenclature, 475; Camphor Secreted by an Animal, 516; Peach Yellows, 875
 Copyright of University Lectures, R. M. WENLEY, 376
 Coral Reef, A Tertiary, T. W. VAUGHAN, 873
 Corona, Structure of, H. H. CLAYTON, 146
 Correlation of the Human Skull, ALICE LEE, 946
 Cory, C. B., Birds of Eastern N. America, W. H. OSGOOD, 192
 COULTER, J. M., The Mission of Science in Education, 281
- COWLES, H. C., Physiographic Ecology, 708
 Cox, U. O., Physiology, F. S. LEE, 683
 Crew, H., Physics, W. Le C. STEVENS, 34
 Crossley Reflector of the Lick Observatory, C. B. PERRINE, 627
 CURTIS, W. C., Sexual and Asexual Reproduction, 940
- DALL, WM. H., Christmas Island, 225; Scientific Results of the Norwegian North Polar Expedition, F. Nansen, 562; Relation of N. American Flora to that of S. America, 808; Mollusks, 822
 DALY, R. A., Notes on Oceanography, 114, 148, 688
 DAVENPORT, C. B., Investigations at Cold Spring Harbor, 371; Biological Lectures (Woods Hole), 563; Quantitative Variation, 864
 Davenport, C. B., and G. C., Zoology, M. A. BIGELOW, 447
 DAVIS, W. M., Current Notes on Physiography, 73
 DAY, W. S., Section of Astronomy, Physics and Chemistry, N. Y. Acad. of Sci., 612, 849, 1007
 DEARBORN, G. V. N., Lectures at Clark University, A. MOSSO, 312
 Demoor, J. S., Evolution by Atrophy, C. H. EIGENMANN, 760
 Diplodocus, Vertebral Formula of, J. B. HATCHER, 828
 Disclaimer, A., J. M. BALDWIN and OTHERS, 850
 Discussion and Correspondence, 71, 113, 143, 193, 230, 270, 314, 346, 376, 406, 447, 487, 568, 648, 684, 730, 765, 808, 850, 887, 929, 1009
 Doctorates Conferred by American Universities, 321
 DRÄHMS, A., and H. ELLIS, The Criminal, 930
 Drähms, A., The Criminal, HAVELOCK ELLIS, 610
 Dust Drift, Illusory, A. H. PIERCE, 208
 DYAR, H. G., Lepidoptera Phalænæ, G. F. Hampson, 487
- Earthquakes, T. C. MENDENHALL, 678; JOHN MILNE, 891
 Eclipse, Solar, 76
 Ecology, Physiographic, H. C. COWLES, 708
 Edinburgh Encyclopedia, W. STONE, 685
 Educated Men and the State, H. S. PRITCHETT, 657
 Education at the Paris Exposition, 136
 Eel, The Conger, C. H. EIGENMANN, 401
 EIGENMANN, C. H., Zoology at the American Association, 299; The Conger Eel, 401; Evolution by Atrophy, J. Demoor, 760
 Electricians, American, in London, R. H. THURSTON, 689
 ELLIS, HAVELOCK, The Criminal, A. Drähms, 610, and A. DRÄHMS, The Criminal, 930
 Embryology of Lepas, M. A. BIGELOW, 65
 Embryo sacs, Plant, K. M. WIEGAND, 347
 Engineering, Schools and Original Investigation, A. MARSTON, 397; Education, IRA O. BAKER, 666
 Engineers, Mechanical, American Society of, R. H. THURSTON, 964
 Epitropism, Apotropism and Tropaxis, C. A. WHITE, 143
 Eunica Auriculata, A. L. TREADWELL, 342
 Explosion of Scientific Interest, R. H. THURSTON, 732
 Eye, Power of the, H. M. STANLEY, 73
- F., A. C., Folk-lore in Borneo, 684
 F., A. K., Ornithology, 140
 F., B. E., Forestry in the Philippines, 810
 F., W. S., Architectural Acoustics, 489; Notes on Physics, 613

- Farrand, L., Basketry Designs of Salish Indians and Traditions of Chilcotin Indians, O. T. MASON, 804
Fay, E. A., Marriages of the Deaf, W. K. BROOKS, 524
FERGUSSON, S. P., Meteorological Kite Flying, 521
FEENOW, B. E., Forestry, M. H. Vanutbergh, 527
FESSENDEN, R. A., Physics at the American Association, 106; Inertia and Gravitation, 325; Gravitation, 740
Flora, N. American Relations to that of S. America, W. L. BRAY, 708; W. H. DALL, 808; of S. Appalachian Region, T. H. KEARNEY, 830; The Rocky Mountain, P. A. RYDBERG, 870
Folk-lore in Borneo, A. C. F., 684
Foods and Drugs, HENRY KRAEMER, 232
Forestry in the Philippines, B. E. F., 810; Under State Control, V. M. SPALDING, 977
Fossil Faunas, C. R. KEYES, 146
FOSTER, MICHAEL, The International Catalogue, 457
FOX, W. J., Rafinesque's 'Western Minerva,' 211; Three Forgotten Names of Birds, 314; Names of Animals published by Osbeck, 716
FRANKLIN, C. L., Problem of Color, 408
FRANKLIN, W. S., Mesures électrique, E. Vigneron and P. Letheule, Resistance électrique, G. de Villemontée, 646; Gravitation, 887
FREELEY, J. W., A Correction, 649
French Association for the Advancement of Sci., 376
Fricker, K., Antarctic Regions, W. LIBBEY, 682
FULLERTON, G. S., The Faith of Science, 586
G., J. E., Chemistry, L. C. Newell, 803; Arithmetic of Chemistry, J. Waddell, 803; Analytical Chemistry, E. H. Miller, 921
Gasoline Launch, G. D. HARRIS, 1008
GATSCHET, A. S., Waikuru, Seri and Yuma Languages, 556
Gauss and the Non-Euclidean Geometry, G. B. HALSTED, 842
Geological Survey, BAILEY WILLIS, 241; Congress, International, H. F. O., 440; Survey, Oklahoma, C. N. GOULD, 559; and Paleontological Collections at the American Museum, E. O. HOVEY, 757; Society of Washington, F. L. RANSOME and DAVID WHITE, 884, 926, 1005
Geology, Address of the President at the British Association, W. J. SOLLAS, 745, 787; and Mineralogy at the N. Y. Academy of Sciences, T. G. WHITE, 447, 923, 1006; and Geography at the American Association, J. A. HOLMES, 989
GERMANN, G. B., University Registration Statistics, 956
GILL, THEO., An Eminent American Man of Science, 568; Sauria and Batrachia, 730
GOULD, C. N., Oklahoma Geological Survey, 559
Government Scientific Work, Administration of, 737
Gravitation, R. A. FESSENDEN, 740; W. S. FRANKLIN, 887
H., J. L., Notes on Inorganic Chemistry, 147, 194, 272, 314, 489, 530, 569, 731, 766, 931; Report of German Chemical Society on Atomic Weights, 246; International Commission on Atomic Weights, 346
Hail Storms, Prevention of, 316
HALE, G. E., James Edward Keeler, 353
HALL, A., JR., The Teaching of Astronomy, 15
HALLOCK, W., Leitfaden der praktischen Physik, F. Kohlrausch, 484; Physics, J. H. Horstvet, 564
HALSTED, G. B., Gauss and the Non-Euclidean Geometry, 842
Hampson, G. F., Lepidoptera Phalaenæ, H. G. DYAR, 487
HANUS, R. H., Education in the United States, N. M. Butler, 485
HARGITT, C. W., Hydromedusæ, 340
HARRIS, G. D., Gasoline Launch, 1008
Hartig, Ernst, R. H. THURSTON, 66
Hartman Anthropological Collection, 967
HATCHER, J. B., Paleontological Expeditions, 718; Vertebral Formula of Diplodocus, 828
HAYES, C. W. and M. R. CAMPBELL, Relation of Biology to Physiography, 131
Health Association, American Public, 571
Heat-engine Diagrams, R. H. THURSTON, 402
Herdman, W. A., Ascidia, W. E. RITTER, 404; and R. Boyce, Oysters and Disease, H. F. MOORE, 443
Hermaphroditism of Docoglossa, M. A. WILCOX, 230
Hertwig, O., Entwickelungslehre, C. S. MINOT, 800
HILGARD, E. W., Étude sur la grêle, V. Vermorel, 269
HOBBS, W. H., Science Club of the University of Wisconsin, 928
Hoff, J. H. Van't, Chimie physique, H. C. J., 881
HOLLAND, W. J., Butterflies, S. H. Scudder, 269
HOLMES, J. A., Geology and Geography at the American Association, 989
Hopkins, E., Oil Chemist's Handbook, W. A. N., 921
Horticulture and Botany at the Association of Agricultural Colleges, 770
Hortvet, J., Physics, W. HALLOCK, 564
HOWARD, L. O., Ulke Collection of Coleoptera, 918; Parasitic Hymenoptera, L. G. Seurat, 961; The Harlequin Fly, L. C. Miall and A. R. Hammond, 963
Howard on Mosquitoes in the United States, M. V. SLINGERLAND, 560
HOVEY, E. O., Geological and Paleontological Collections at the American Museum, 757
HOVEY, H. C., La spéléologie, E. A. Martel, 608
HOWE, J. L., Periodic System, 20
Hydromedusæ, C. W. HARGITT, 340
IHERING, H. von., The Neotropical Region, 857
Ihering, H. von., Archiplata, A. E. ORTMANN, 929
Inertia and Gravitation, R. A. FESSENDEN, 325
Interferences observed on viewing one Coarse Grating through another, CARL BARUS, 617
Investigations at Cold Spring Harbor, C. B. DAVENPORT, 371
Irrigation, W. H. BEAL, 674
IRWELL, LAWRENCE, Callosities upon Horses' Legs, 113
J., H. C., Chimie physique, J. H. Van't Hoff, 881
JAMES, W., International Psychical Institute, 376
JASTROW, J., Grammar of Science, K. Pearson, 67
JEFFERSON, M. S. W., Tarr and McMurry's Geographies, 373
Jenner Institute of Preventive Medicine, 153
JENNINGS, H. S., Michigan Zoological Journal Club, 886, 927
Jesup North Pacific Expedition, 235
JORDAN, D. S., First Species Named as the Type of the Genus, 785
Jorgensen, A., Microorganisms and Fermentation, H. W. C., 344
JUDD, C. H., Anthropology, and Psychology at the N. Y. Academy of Sciences, 729, 925

- Kathode Rays, E. MERRITT, 41, 98
 KEARNEY, T. H., Flora of S. Appalachian Region, 830
 Keeler, James Edward, G. E. HALE, 353
 KEMP, J. F., Pre-Cambrian Sediments in the Adirondacks, 81
 KEYES, C. R., Fossil Faunas, 146
 KINGSLEY, J. S., Comparative Anatomy of Animals, G. C. Bourne, 311
 Kite vs. Balloon, A. L. ROTCH, 193
 KOFOID, C. A., Microscopy of Drinking Water, G. C. Whipple, 69
 Kohlrausch, F., Kleiner Leitfaden der praktischen Physik, W. HALLOCK, 484
 KRAEMER, H., Foods and Drugs, 232
 KRUG, W. H., Chemical Society of Washington, 1005
 L., F. A., Zoological Notes, 150 ; Museum and Zoological Notes, 569
 Languages, Waikuru, Seri and Yuma, A. S. GATSCHE, 556
 Lankester, E. R., Zoology, J. P. McM., 959
 LARMOR, J., Address of the President of the Mathematical and Physical Section of the British Association, 417
 Lassar-Cohn, Chemie, E. RENOUE, 803
 Lazear, Jesse William, 932
 Leaves, Green, Electrical Effect of Light on, 377
 LEE, ALICE, Correlation of the Human Skull, 946
 LEE, F. S., Physiology, B. M. Brown, 683 ; U. O. Cox, 683 ; B. P. Colton, 684
 LIBBEY, W., Antarctic Regions, K. Fricker, 682
 LLOYD, F. E., Biology at the N. Y. Academy of Sciences, 729, 885
 LOCKYER, W., and W. J. S., Sunspots and Rainfall, 915
 LOEB, J., Artificial Parthenogenesis in Annelids, 170
 Loess of North China, F. B. WRIGHT, 71
 Loew, O., Tobacco, H. N. STOKES, 191
 Loos, Herman Andreas, M. C. WHITAKER, 403
 LUCAS, F. A., Deformed Sterna in the Domesticated Fowl, 71 ; Biological Society of Washington, 728, 807, 927, 935 ; Paleontological Notes, 809
 Lumholtz, C., Symbolism of Huicol Indians, O. T. MASON, 804
 M., T. C., Newspaper Science, 684
 MACCORMAC, W., Development of Surgery, 254
 MACDOUGAL, D. T., Anatomie et physiologie végétale, E. Belzung, 444 ; Botany at the American Association, 577
 MCGEE, W. J., Callosities on Horses' Legs, 194
 McIlvaine, C., American Fungi, 958
 McM., J. P., Zoology, E. R. Lankester, 959
 MAGIE, W. F., Physics, W. Watson, 139
 Magnetic Work, 152
 Mammalian Fauna of the Santa Cruz Beds of Patagonia, W. B. SCOTT, 937
 MARSTON, A., Original Investigation by Engineering Schools, 397
 Marsupialia, Inflection of the Angle of the Jaw in, B. A. BENSLEY, 558
 Martel, E. A., La spéléologie, H. C. HOVEY, 608
 MASON, O. T., Anthropological Publications of the American Museum, 804
 Mathematical Society, American, F. N. COLE, 129, 764 ; and Physical Section of the British Association, Address of the President, J. LARMOR, 417
 Mathematics and Astronomy at the American Association, W. M. STRONG, 104
 Mechanics, Applied, Congress of, R. H. THURSTON, 681
 Medical Exhibits at Paris, 195
 MENDENHALL, T. C., Earthquakes, 678
 MERRITT, E., Kathode Rays, 41, 98
 Meteorological Kite Flying, S. P. FERGUSSON, 521
 Meteorology, Current Notes, R. DeC. WARD, 37, 114, 731, 850, 1009 ; Congress of, A. L. ROTCH, 796
 Meyer and Wiglesworth on the Birds of Celebes, J. A. ALLEN, 223
 Meyer, H., Carbon Compounds, W. R. ORNDORFF, 882
 Miali, L. C., and A. R. Hammond, Harlequin Fly, L. O. HOWARD, 963
 Microscopical Society, American, HENRY B. WARD, 222
 Miller, E. H., Analytical Chemistry, J. E. G., 921
 MILNE, JOHN, Earthquakes, 891
 MINOT, C. S., Entwicklungslehre, O. HERTWIG, 800
 Mollusks, W. H. DALL, 822
 MONTGOMERY, H., Eminent American Men of Science, 346 ; A Large Crystal of Spodumene, 410
 MOORE, H. F., Oysters and Disease, W. A. Herdman and R. Boyce, 443
 Mosquitoes, in the British Museum, 691 ; and Yellow Fever, 692
 Mosso, A., Lectures at Clark University, G. V. N. DEARBORN, 312
 MOULTON, F. R. and T. C. CHAMBERLIN, The Nebular Hypothesis, 201
 Museum and Zoological Notes, F. A. L., 569
 Museums, Foreign, 231
 N., W. A., Oil Chemist's Handbook, E. Hopkins, 921
 Nansen, F., Scientific Results of the Norwegian North Polar Expedition, W. H. DALL, 562
 National Academy of Sciences, 848
 Nebular Hypothesis, T. C. CHAMBERLIN and F. R. MOULTON, 201
 Neotropical Region, History of, H. von IHERING, 857
 New York Academy of Sciences, Geology and Mineralogy, T. G. WHITE, 447, 923, 1006 ; Astronomy, Physics, and Chemistry, W. S. DAY, 612, 849, 1007 ; C. H. JUDD, 729, 925 ; Biology, F. E. LLOYD, 729, 885
 Newell, L. C., Chemistry, J. E. G., 803
 Nobel prizes, 497
 NOYES, A. A., Chemistry at the American Association, 263
 Nutting, C. C., American Hydroids, T. D. A. COCKERELL, 920
 O., H. F., International Geological Congress, 440
 Oceanography, Notes on, R. A. DALY, 114, 148, 688
 ORNDORFF, W. R., Carbon Compounds, H. Meyer, 882
 Ornithologists' Union, American, J. H. SAGE, 949
 Ornithology, A. K. F., 140
 ORTMANN, A. E., von Ihering's Archiplata, 929
 OSBORN, H. F., International Catalogue of Scientific Literature, 113 ; Zoo-paleontology, 767
 Osgood, W. H., Birds of Eastern North America, C. B. Cory, 192
 Ostwald, W., Anorganische Chemie, W. D. BANCROFT, 722
 PADDOCK, W., European Apple Tree Canker in America, 297
 Paleontological Expeditions, J. B. HATCHER, 718 ; Notes, F. A. LUCAS, 809

- Parthenogenesis, Artificial, in Annelids, J. LOEB, 170
 Peach Yellows, O. F. COOK, 875
 Pearson, K., Grammer of Science, J. JASTROW, 67
 PENHALLOW, D. P., Paléobotanique, R. Zeiller, 606
 Periodic System, J. L. HOWE, 20
 PERKIN, W. H., Address of the President of the Section of Chemistry of British Association, 632
 PERKINS, C. A., Structure of the Atom, 368
 PERRINE, C. D., Crossley Reflector of the Lick Observatory, 627
 Peruvian Arc, I. W., 676
 Philosophical Society of Washington, 648; E. D. PRESTON, 926
 Physical Laboratory, British National, 154
 Physico-Technical Institute at Charlottenburg, H. S. CARHART, 697
 Physics, at the American Association, R. A. FESSENDEN, 106; Notes on, W. S. F., 613
 Physiography, Current Notes on, W. M. DAVIS, 73
 PICKERING, E. C., A New Star in Aquila, 116
 PIERCE, A. H., The Illusory Dust Drift, 208
 Plague Harben Lectures on, 969
 Plant Geography in North America, H. C. COWLES, 708; W. L. BRAY, 708; T. H. KEARNEY, 830; P. A. RYDBERG, 870
 Potato Beetle, Colorado, W. L. TOWER, 438
 Pozzi-Escot, E., Analyse chimique qualificative, E. RENOUF, 71
 Pre-Cambrian Sediments in the Adirondacks, J. F. KEMP, 81
 PRESTON, E. D., Philosophical Society of Washington, 926
 PRITCHETT, H. S., Educated Men and the State, 657
 Psychical Institute, International, W. JAMES, 376
 Psychology, of Pity, H. M. STANLEY, 487; Congress of, R. S. WOODWORTH, 605
 Quarter, The Last, L. M. UNDERWOOD, 161
 Rafinesque's 'Western Minerva,' W. J. FOX, 211
 Railways of the United States, R. H. THURSTON, 724
 RANSOME, F. L., and D. WHITE, Geological Society of Washington, 884, 926, 1005
 RATHBURN, R., Catalogue of Scientific Literature, 270
 REES, J. K., German Scientific Apparatus, 777
 REESE, H. M., Zeeman Effect, 293
 RENOUF, E., Analyse chimique qualificative, E. Pozzi-Escot, 71; Chemie in täglichen Leben, Lassar Cohn, 803
 Reinhardt, C. W., Mechanical Drafting, F. N. WILLSON, 528
 Reproduction, Sexual and Asexual, W. C. CURTIS, 940
 Reynolds, O., Papers on Mechanical and Physical Subjects, R. S. W., 483
 RHYS, JOHN, Address of the President of the Anthropological Section of British Association, 502
 Richter and the Periodic System, F. P. VENABLE, 825
 RITTER, W. E., Herdman on Ascidia, 404
 Ross, Professor, and Stanford University, 811
 ROTCH, A. L., Kite vs. Balloon, 193; Sounding the Ocean of Air, R. DeC. Ward, 761; Congress of Meteorology, 796; The Longest Aërial Voyage, 930
 Royal Society, 960
 RUSSELL, F., Anthropology at the American Association, 265
 RUSSELL, I. C., Topographic Atlas of the U. S., 1003
 RYDBERG, P. A., The Rocky Mountain Flora, 870
 Rydberg, P. A., Flora of Montana, C. E. BESSEY, 111
 S., C. G., Acquired Characters, 114
 S., F. W., Texas Academy of Sciences, 142
 SAGE, J. H., American Ornithologists' Union, 949
 San José Scale and the Kieffer Pear, T. D. A. COCKERELL, 488
 St. Louis Academy of Sciences, WILLIAM TRELEASE, 648, 928
 Sauria and Batrachia, THEO. GILL, 730
 Science, and Education, J. M. COULTER, 281; Research Scholarships, 378; Man of Eminent American, THEO. GILL, 568; The Faith of, G. S. FULLERTON, 586; Newspaper, T. C. M., 684
 Scientific Books, 34, 67, 109, 139, 191, 223, 269, 311, 343, 373, 403, 442, 481, 523, 562, 606, 645, 678, 722, 760, 800, 842, 881, 920, 958, 1001; Journals and Articles, 36, 113, 141, 192, 227, 270, 313, 345, 375, 405, 529, 567, 611, 648, 727, 763, 806, 846, 882, 921, 1004; Notes and News, 38, 78, 116, 157, 197, 236, 276, 317, 347, 379, 413, 453, 492, 532, 572, 614, 652, 693, 733, 771, 813, 854, 882, 933, 969, 1012; Apparatus, German, J. K. REES, 777
 SCOTT, C. A., Arithmetical Note, 648
 SCOTT, W. B., Mammalian Fauna of the Santa Cruz Beds of Patagonia, 937
 Souudder, S. H., Butterflies, W. J. HOLLAND, 269
 Seurat, L. G., Parasitic Hymenoptera, L. O. HOWARD, 961
 Shells, Fossil, R. E. C. STEARNS, 247
 Sigma Xi, The American Association and the Geological Society of America, 196
 Siluro-Devonic Boundary, J. M. CLARKE, 406
 SIMPSON, C. T., Former Courses of Tennessee and other Rivers, 133
 SLINGERLAND, M. V., Howard on Mosquitoes of the United States, 560
 Smith, H. I., Archeology of the Thomson River Region, O. T. MASON, 804
 Societies and Academies, 36, 142, 228, 446, 612, 648, 686, 728, 764, 807, 848, 884, 923, 965, 1005
 SOLAS, W. J., Address of the President of the Section of Geology of the British Association, 745, 787
 SPALDING, V. M., Forestry under State Control, 977
 Species, First named, as Type of the Genus, D. S. JORDAN, 785
 Spencer-Tolles Fund, 686
 Spodumene, A large Crystal of, H. MONTGOMERY, 410
 Standards Bureau, National, 412
 STANLEY, H. M., Power of the Eye, 73; Psychology of Pity, 487
 STEARNS, R. E. C., Fossil Shells, 247
 STEVENS, W. LE C., Physics, 34
 Stine, W. M., Photometrical Measurements, F. P. WHITMAN, 403
 Stokes, G. G., Memoirs presented to the Cambridge Philosophical Society, R. S. W., 481
 STOKES, H. N., The Revival of Organic Chemistry, 537; Tobacco, O. Loew, 191
 STONE, W., Edinburgh Encyclopædia, 685
 STRONG, W. M., Mathematics and Astronomy at the American Association, 104
 Suess, E., La face de la terre, J. B. WOODWORTH, 645
 Sunspots and Rainfall, N. LOCKYER and W. J. S. LOCKYER, 915

- Surgeons, Royal College of, 250
 Surgery, Development of, W. MACCORMAC, 254
- T., F. L., Wireless Telegraphy, S. R. Bottone, 375
 T., W., Bailey's Cyclopaedia of Horticulture, 226
 Tait, P. G., Scientific Papers, R. S. W., 483
 Tarr and McMurry's Geographies, M. S. W. JEFFERSON, 373
 Teit, J., Thompson River Indians, O. T. MASON, 804
 Telephonegraph, 812
 Tennessee and other Rivers, Former Courses of, C. T. SIMPSON, 133
 Tesla and the Universe, 447
 Texas Academy of Sciences, F. W. S., 142
 THURSTON, R. H., University of Birmingham, 315 ;
 Heat-engine Diagrams, 402 ; Street Car Breaks,
 444 ; Water Supply of the City of New York,
 566 ; Congress of Applied Mechanics, 681 ; Railways of the United States, 724 ; Explosion of
 Scientific Interest, 732 ; Free-hand Perspective,
 V. T. Wilson, 761 ; Our New Prosperity, R. S.
 Baker, 762 ; Engine Tests, G. S. Barrus, 802 ;
 American Society of Mechanical Engineers, 964
- Topographic Atlas of the U. S., I. C. RUSSELL, 1003.
 Torrey Botanical Club, N. L. BRITTON, 36 ; E. S.
 BURGESS, 687, 886
- TOWER, W. L., Colorado Potato Beetle, 438
 TREADWELL, A. L., Eunica Auriculata, 342
 TRELEASE, W., Twentieth Century Problems, 48 ;
 St. Louis Academy of Sciences, 648, 928.
 TREVOR, J. E., Thermodynamics, E. Buckingham,
 343
- Trout Brook, Epidemic of, G. N. CALKINS, 64
 TRUE, A. C., Association of Agricultural Colleges
 and Experiment Stations, 817
 True, A. C. and V. A. Clark, Agricultural Experiment
 Stations, E. W. ALLEN, 111
- Tuberculosis, British Congress on, 316
 TURNER, W., Address of President before the British
 Association, 357, 385
- Turtle, Homing Instinct of a, C. L. BRISTOL, 890
 Twentieth Century Problems, W. TRELEASE, 48
- UNDERWOOD, L. M., The Last Quarter, 161
 Uninsulated Conductors and Scientific Work, 1010
 Units at the International Electrical Congress, 410
 University, and Educational News, 40, 79, 120, 160,
 200, 240, 279, 320, 352, 384, 416, 456, 496, 536,
 576, 616, 656, 695, 736, 776, 816, 855, 896, 936,
 976, 1016 ; Registration Statistics, G. B. GERMAN, 906
- Vanutberghe, M. H., Forestry, B. E. FERNOW, 527
 Variation, Quantitative, C. B. DAVENPORT, 864
 VAUGHAN, T. W., A Tertiary Coral Reef, 873
 VENABLE, F. P., Richter and the Periodic System,
 825
- Vermorel, V., La grêle, E. W. HILGARD, 269
 Vigneron, E. and P. Letheule, Mesures électrique,
 W. S. FRANKLIN, 646
- Villemontée, G. de, Resistance électrique, W. S.
 FRANKLIN, 646
- VINES, S. H., Address of the President of the Botanical
 Section of the British Association, 459
 Vision, Defective of School Children, 274
- W., I., The Peruvian Arc, 676
 W., R. S., Memoirs presented to the Cambridge
 Philosophical Society on the occasion of the Jubilee
 of Sir G. G. Stokes, 481 ; Scientific Papers,
 P. G. Tait, 483 ; Papers on Mechanical and Physical
 Subjects, O. Reynolds, 483
- Waddell, J., Arithmetic of Chemistry, J. E. G., 803
 WARD, R. DEC., Current Notes on Meteorology, 37,
 114, 731, 850, 1009 ; Sounding the Ocean of Air,
 A. L. Rotch, 761
- Water, Supply of City of New York, R. H. THURSTON, 565 ; Analysis, Standard Methods, 906
- Watson, W., Physics, W. F. MAGIE, 139
 Welsbach Light, 951
 WENLEY, R. M., Copyright of University Lectures,
 376
- Whipple, G. C., Microscopy of Drinking Water, C. A.
 KOFOID, 69
- WHITAKER, M. C., Herman Andreas Loos, 403
 WHITE, C. A., Botanical Terms, 62 ; Epitropism,
 Apotropism and Tropaxis, 143
- WHITE, D., and F. L. RANSOME, Geological Society
 of Washington, 884, 926, 1005
- WHITE, T. G., Geology and Mineralogy at the N. Y.
 Academy of Sciences, 447, 923, 1006
- WHITMAN, F. P., Photometrical Measurements, W.
 M. STEINE, 403
- WIEGAND, K. M., Plant Embryo-sacs, 347
- WILCOX, M. A., Hermaphroditism of Docoglossa, 230
- WILLIS, BAILEY, U. S. Geological Survey, 241
- WILLSON, F. N., Mechanical Drafting, C. W. Reinhardt, 528
- Wilson, E. B., The Cell, E. G. CONKLIN, 109
 Wilson, V. T., Free-hand Perspective, R. H. THURSTON, 761
- Wireless Telegraphy, 690
- Wood, R. W., Zenker's Photochromie, 445
 WOODMAN, DURAND, N. Y. Section of the American
 Chemical Society, 849, 1008
- WOODWORTH, J. B., La face de la terre, E. Suess, 645
 WOODWORTH, R. S., Congress of Psychology, 605
- WRIGHT, F. B., Loess of North China, 71
- Yellow Fever and Mosquitoes, 692, 1010
- Zeeman, Effect, H. M. REESE, 293
 Zeiller, R., Paléobotanique, D. P. PENHALLOW, 606
 Zenker's Photochromie, R. W. WOOD, 445
 Zoological, Notes, F. A. L., 150 ; Club of the University
 of Chicago, C. M. CHILD, 228 ; Mich.
 Zoological Club, H. S. JENNINGS, 886, 927
 Zoology at the American Association, C. H. EIGENMANN, 299
 Zoo-paleontology, H. F. OSBORN, 767