

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 XI.

JANUARY-JUNE, 1900.

NEW YORK
THE MACMILLAN COMPANY
1900

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

CONTENTS AND INDEX.

N. S. VOL. XI.—JANUARY TO JUNE, 1900.

The Names of Contributors are Printed in Small Capitals.

- A., C., Henry Allen Hazen, 222
Acoustics, Problems in, CHARLES K. WEAD, 732
AGASSIZ A., Cruise of the Albatross, 92, 288, 574
Agricultural, Experiment Stations, 116, 540
Agriculture, Department of, Appropriations, 921
Ala. Industrial and Scientific Soc., E. A. SMITH, 32
Albatross, Cruise of the, A. AGASSIZ, 92, 288, 574
ALLEN, E. W., Digestibility of American Feeding
 Stuffs, W. H. Jordan and F. H. Hall, 988
ALLEN, J. A., Elliott Coues, 161
Aluminium-Magnesium Alloys, R. H. THURSTON, 783
AMATEUR, Newspaper Science, 74
American, Association, New York Meeting, 961, 1001,
 1012 ; Museum, Recent Additions, 77
AMI, H. M., Geological Survey of Canada, G. M.
 Dawson, 266 ; Royal Soc. of Can., 1020
Anatomists, Amer. Assoc. of, D. S. LAMB, 414
Andrews, Myra and E. G. Stevens, Diurnal Theory
 of the Earth, T. C. M., 546
Anthropological Society of Washington, J. H. Mc-
 Cormick, 30, 111, 867
Anthropology, at the American Association, E. W.
 SCRIPTURE, 136 ; New York Academy of Sciences,
 CHAS. H. JUDD, 313, 508, 587, 827, 989
Antiquities of Alabama, HARLAN I. SMITH, 791
Ants, Hearing in, MAYNARD M. METCALF, 194
Aptosochromatism in Passerina Cyanea, J. F. BIRT-
 WELL, 292
Archæology in Ontario, HARLAN I. SMITH, 715
Arey, A. L., Elementary Chemistry, J. E. G., 948
Arrowpoints, Spearheads, Knives, H. I. SMITH, 834
Assay Commission, 397
Astronomy, Physics and Chemistry, N. Y. Academy
 of Science, WM. S. DAY, 550, 624, 664, 989
ATKINSON, G. F., Plant Material, 272 ; North Ameri-
 can Slime Moulds, T. H. MacBride, 268
Atomic, Weight of Oxygen, EDWARD W. MORLEY, 281 ;
 Theory, from Chemical Standpoint, H. N. STOKES,
 601 ; Objections to, FRANK K. CAMERON, 608
Auchincloss, W. S., De praktische toeassing, R. H.
 T., 506
Aurivillius, Chr., Rhopalocera *Aethiopica*, W. J. HOL-
 LAND, 421

B., E. H. S., Kansas Academy of Science, 152
B., H. C., Zoological Notes, 435
Bacteriologists, Society, 157 ; H. W. CONN, 455
Bailey, L. H. and W. Miller, Encyclopedia of American
 Horticulture, WILLIAM TRELEASE, 858
BALDWIN, J. MARK, Hemianopsia in Migraine, 713
BARBOUR, C. A., Morrill Geological Expeditions, 856
BARBOUR, E. H., Geol. Survey of Nebraska, 342
BARUS, CARL, Atmospheric Dust, 201 ; Des tempéra-
 tures élevées, H. C. Chatelier and O. Boudouard,
 506 ; Rayleigh's Scientific Papers, 580

Baskerville, Chas., School Chemistry, J. E. G., 948
BATHER, F. A., False Bibliographic Indication, 231 ;
 Paleontology, Karl A. v. Zittel, 980
BAUER, L. A., Terrestrial Magnetism, 651
Benjamin, E. H., California Mines, R. H. T., 347
BENTLEY, I. M., Manual of Psychology, G. F. Stout,
 705
BESSEY, CHARLES E., Botanical Notes, 74, 354, 672 ;
 Minnesota Plant Life, Conway MacMillan, 424 ;
 Plant Structures, John M. Coulter, 466 ; Nature
 and Work of Plants, D. T. MacDougal, 505
Bibliographic, Indication, False, F. A. BATHER, 231
Biedermann, W., Electro-physiology, G. N. I. S., 146
Biological, Society of Washington, O. F. COOK, 30,
 T. W. STANTON, 188, 313, 349, F. A. LUCAS,
 508, 588, 712, 749, 867, H. J. WEBBER, 827 ; La-
 boratory, Marine, E. G. CONKLIN, 333 ; Study in
 Paris, F. C. NEWCOMBE, 736 ; Sciences and the
 People, JACOB REIGHARD, 966
Biology, N. Y. Acad. of Sci., F. E. LLOYD, 269, 426,
 951
Birds, Humanizing the, F. A. LUCAS, 868
BIRTWELL, F. J., Aptosochromatism, 292
BLAKE, C. J., Sociological Status of the Physician, 772
Blatchley, W. S., Gleanings from Nature, S. H. S., 108
BOGERT, M. T., Matières odorantes artificielles, G.
 F. Jaubert, 710 ; Produits aromatiques, G. F.
 Jaubert, 823
Botanical, Notes, CHARLES E. BESSEY, 74, 354, 672 ;
 Garden, Missouri, 196 ; New York, D. T. MAC-
 DOUGAL, 935
BOWDITCH, H. P., Medical School of Future, 681
Bowers, G. M., U. S. Fish Commission, H. C. BUMPUS,
 149
Boyer, J., Historie des mathématiques, FLORIAN
 CAJORI, 947
Brinton, Daniel Garrison, 401 ; Memorial Chair in the
 University of Pennsylvania, 594
BRITCHER, H. W., Onondaga Acad. of Sci., 31, 230
British Association, 1035
BRITTON, E. G., and F. E. LLOYD, Vermehrung der
 Laubmoose, Carl Correns, 25
BRYAN, WM. L., and E. H. LINDLEY, Science in the
 Daily Press, 74
Buckley, E. R., Building Stones of Wisconsin,
 GEORGE P. MERRILL, 24, C. R. VAN HISE, 191
Bulletin of Amer. Museum of Nat. Hist., L. P. GRAT-
 ACAP, 807
BUMPUS, H. C., U. S. Fish Commission, 147
BURGESS, E. S., Torrey Botanical Club, 351, 551,
 665, 712, 828
BURNHAM, WM. H., Physical Nature of the Child,
 S. H. Rowe, 27
C., F. C., Notes on Physics, 396

- CAJORI, FLORIAN, Histoire des mathématiques, Jacques Boyer, 947
 CALKINS, GARY N., Traité de zoologie concrète, Yves Delage and E. Herouard, 390
 Cambridge University, 195
 CAMERON, FRANK K., Objections to Atomic Theory, 608
 Carpenter, George H., Insects, V. L. KELLOGG, 309
 CHAMOT, E. M., Analyse microchimique et spectroscopique, E. Pozzi-Escot, 861
 Chatelier, H. C., and O. Boudouard, Mesure des température élevées, CARL BARUS, 506
 Chemical Society, of Washington, WM. H. KRUG, 152, 189, 666, 866; American N. Y. Section, DURAND WOODMAN, 189, 352, 752, 865, 990
 Chemist, Experimental Method of, F. EMICH, 443
 Chemistry, Inorganic Notes on, J. L. H., 33, 113, 154, 194, 516, 632, 869, 993; National Library of the History of, Fred Hoffman, 829
 CHILD, C. M., Zoological Club, University of Chicago, 189, 312, 509, 788
 CHITTENDEN, R. H., Universities and Investigation, 53
 Chronological Index, C. L. F., 589
 Cincinnati, University, THOMAS FRENCH, JR., 669, 753
 Clark University, Celebration, C. S. PEIRCE, 620
 CLOSSON, C. C., L'Ayren, G. V. de Lapouge, 549
 Coal Flora of Miss. Valley, CHARLES R. KEYES, 898
 Coast and Geodetic Survey, E. D. P., 616
 COCKERELL, T. D. A., Pigments of the Coccoid Chionaspis Furfura, Fitch, 671; the Cochineal, 991
 COE, GEORGE A., Psychology of Religion, E. D. Stark buck, 862
 COLE, F. N., Amer. Math. Society, 66, 394, 751
 Collars, Cedar, of N. A. Indians, O. T. MASON, 83
 Comfort and Productivity, R. H. THURSTON, 435
 COMSTOCK, J. H., Insects, David Sharp, 389
 CONKLIN, E. G., Marine Biological Laboratory, 333
 CONN, H. W., Society of Amer. Bacteriologists, 455
 Consular Service, German, 274
 COOK, O. F., Biological Society of Washington, 30
 Correns, Carl, Vermehrung der Laubmoose, F. E. LLOYD, E. G. BRITTON, 25
 Costantin, J., La nature tropicale, D. T. MACDOUGAL, 860
 Coues, Elliott, J. A. ALLEN, 161
 Coulter, John M., Plant Structures, CHARLES E. BESSEY, 466
 DALL, W. H., Geology of Louisiana, G. D. Harris and A. C. Veatch, 745; New Abyssal Limpet, 914
 DAVENPORT, C. B., Naturalists at Chicago, 246; The Living Organism, Alfred Earl, 949
 Davis, Edward, Refraction of the Eye, C. A. O., 622
 DAVIS, HERMAN S., Piazzi's Star Observations, 578
 DAVIS, W. M., Notes on Physiography, 34, 154, 234, 314, 433, 515, 591, 671, 753, 790, 870, 956, 1032
 Dawson, G. M., Geol. Survey of Can., H. M. AMI, 266
 DAY, WM. S., Astronomy, Physics, and Chemistry, N. Y. Acad. of Sci., 550, 624, 664, 989
 DEAN, BASHFORD, Carl von Kupffer, 364
 DEARBORN, G. V. N., Reactions of the Lower Animals against Injury, 270; Information wanted, 670; The Smile and the Laugh, 851
 Degrees, Conferring of, by Smithsonian Institution, 75
 Delage, Yves, and E. Herouard, Traité de zoologie concrète, GARY N. CALKINS, 390
 Deniker, J., The Races of Men, O. T. MASON, 464
 DEWAR, JAMES, Liquid Hydrogen, 641
 Dewar on Solid Hydrogen, 674
 DEWEY, JOHN, Psychology and Social Practice, 321
 Dietary Studies of University Boat Crews, 834
 Diplodocus, Marsh, W. J. HOLLAND, 816
 Discussion and Correspondence, 33, 72, 112, 153, 191, 231, 270, 396, 430, 510, 554, 588, 627, 667, 712, 752, 829, 868, 909, 1028
 DODGE, R. E., N. Y. Acad. of Sci., Annual Meeting, 393; International Geography, H. R. Mill, 704
 DOOLITTLE, C. L., Interpolation, II S. Rice, 1026
 Duckwall, E. W., Tuning and Pitching, 225
 Dust, Atmospheric, CARL BARUS, 201
 DWIGHT, JR., J., Plumages and Moult, 627
 DWIGHT, T., Universities and Investigation, 51
 E., W., Graphophone as Astronom. Instrument, 832
 EAKLE, A. S., and J. F. KEMP, Geological Society of America, 140
 Earl, A., The Living Organism, C. B. DAVENPORT, 949
 Earthquake, Meridian, R. H. TUCKER, 215
 Eclipse of May 28th, MARY W. WHITNEY, 992
 Edinger, L., Do Fishes Remember?, E. THORNDIKE, 273
 Education, in U. S., 274; Administration in N. Y., 275
 Educational Values, W. LE CONTE STEVENS, 481
 Egleston, Thomas, A. J. MOSES, 361
 EIGENMANN, C. H., Eyes of Cold-blooded Vertebrates of N. A. Caves, 492
 Electrical, Anaesthesia, E. W. SCRIPTURE, 153; Units, T. C. M., 554; Standards, FRANK A. WOLFF, JR., 403
 Eliot, C. W., on Anti-vivisection Legislation, 874; and F. H. Storer, Chemical Analysis, E. RENOUE, 823
 Ellis, G. H., White Paints, JAS. LEWIS HOWE, 622
 EMERSON, PHILLIP, Glacial Erosion, 911
 EMICH, F., Experimental Methods of Chemist, 443
 EMMONS, S. F., Ore Deposits, J. F. Kemp, 503
 Engineering, Steam, R. H. T., 223; Notes, R. H. T., 353, 1031; Electrical, W. S. F., 513, 1030
 Enzyme, A New, OSCAR LOEW, 701
 Eogaea Antarctica, THEO. GILL, 913
 Eros, 914
 Erosion, O. H. HERSHEY, 614
 Eskimos of Smith Sound, O. T. MASON, 589
 EVERMANN, BARTON W., Species and Subspecies, 451
 Ewing, J. A., The Strength of Materials, M. M., 310
 F., C. L., A Chronological Index, 589
 F., W. S., Notes on Physics, 352, 555, 590, 789, 832, 913; Notes on Electrical Engineering, 513, 1030
 FARLOW, W. G., Address of President before American Society of Naturalists, 11
 FAIRRAND LIVINGSTON, Amer. Psychol. Assoc., 132
 Flammarion, C., The Unknown, J. JASTROW, 945
 FLEXNER, SIMON and LEWELLYS F. BARKER, Prevalent Diseases in the Philippines, 521
 Floating Sand and Stones, FREDERIC W. SIMONDS, 510; E. O. HOVEY, 912
 FLINT, A. S., Wis. Acad. of Sci., Arts and Letters, 151
 Folwell, A. P., Water Supply Engineering, M. MERIMAN, 346
 Food and Drug, Pure, Third Congress, 441
 Forestry, N. Y. State College, 1034
 Fossil-hunting in Wyoming, E. S. RIGGS, 233
 FOWLER, H. W., Necturus Maculosus Rafinesque, 555

- Fox, Blue, on the Pribilof Islands, F. A. LUCAS, 125
 FRANKLIN, C. L., Phosphorescence, 954
 FRAPS, G. S., Soils and Fertilizers, Snyder, 785
 FRENCH, JR., T., University of Cincinnati, 669, 753
 G., A. S., Spirit-lore of Micronesians, 471 ; Tobacco, Tobacco Pipes and Smoking, 633
 G., J. E., Elementary Chemistries, A. L. Arey, H. H. Nicholson, Chas. Baskerville, 948
 GANONG, W. F., Society for Plant Morphology, 299
 Gas Well Pressure, A. M. MILLER, 192
 GATSCHET, ALBERT S., S. Amer. Languages, 28
 Geodesy, Recent Progress in, J. F. HAYFORD, 369
 Geologic Time, Rhythms and, G. K. GILBERT, 1001
 Geological, Society of America, J. F. KEMP, 98, and A. S. EAKLE, 140 ; Cordilleran Section, A. C. LAWSON, 219 ; of Washington, F. L. RANSOME, DAVID WHITE, 187, 228, 348, 429, 507, 588, 824 ; Survey of Nebraska, E. H. BARBOUR, 343 ; and Faunal Relations of Europe and America, H. F. OSBORN, 561 ; Expeditions, Morrill, CARRIE A. BARBOUR, 856 ; Survey, Reorganization in, 996
 Geology and Mineralogy at the N. Y. Acad. of Sci., A. A. JULIEN, 110, 229, 427 ; T. G. WHITE, 625, 750
 GILBERT, G. K., Edward Orton, Geologist, 6 ; Rhythms and Geologic Time, 1001
 Gill, David, Award of Watson Medal to, S. NEWCOMB, 721
 GILL, THEO., Zoo-geographical Relations of Africa, 900 ; *Eogaea Antarctica*, 913 ; and H. M. SMITH, Moringuid Eels, 973
 Glacial Erosion, PHILLIP EMERSON, 911
 GOULD, C. N., Indian Pictographs, 630
 Graduate Study and the Smithsonian Institution, 195
 Granites of Sierra Costa Mts., O. H. HERSHHEY, 130
 Graphophone, W. E., 832
 GRATACAP, L. P., Bulletin of American Museum of Natural History, 807
 Gratacap on the Making of a Museum, F. A. L., 755
 Greek and Latin, E. W. HILGARD, 903
 H., J. L., Notes on Inorganic Chemistry, 33, 113, 154, 194, 516, 632, 869, 993
 Hail, Prevention of, E. W. HILGARD, 153
 HALL, EDWIN H., Kinetic Theory of Gases, O. E. Meyer, 984
 Hall, James, and J. M. Clarke, Palaeozoic Reticulate Sponges, CHARLES SCHUCHERT, 391
 HALSTED, B. D., Plot Experiments, 726
 HANUS, PAUL H., Logical Bases of Education, J. Welton, 1024
 Harris, G. D., and A. C. Veatch, Geology of Louisiana, W. H. DALL, 745
 HATCHER, J. B., Die Conchylien, H. von Thering, 263
 HAYFORD, J. F., Recent Progress in Geodesy, 369
 Hazen, A., Filtration, M. MERRIMAN, 346
 Hazen, Henry Allen, C. A., 222
 Hemianopsia in Migraine, J. MARK BALDWIN, 713
 Herdman, W. A., Ascidia, WM. E. RITTER, 108
 HERING, D. W., Misuse of Technical Terms, 1028
 Herschel, C., Water Supply of Rome, M. MERRIMAN, 106
 HERSHHEY, O. H., Granites of the Sierra Costa Mountains, 130 ; Inter-stream Erosion, 614
 Highhole Courtship, HIRAM M. STANLEY, 832
 Highway Report of Maryland, J. A. HOLMES, 536
 HILGARD, E. W., Prevention of Hail, 153 ; Greek and Latin vs. Modern Languages, 953
 HILL, GEO. A., Variation of Latitude, 166 ; and JAMES E. KEELER, Observations with Meridian Circles, 72
 HILL, ROBERT T., Spelling of Porto Rico, 712
 HOBES, WM. H., Science Club of the University of Wisconsin, 72, 311, 665, 829, 908
 HOFFMAN, F., National Library of the History of Chemistry, 829
 HOLGATE, T. F., Chicago Sec., Amer. Math. Soc., 218
 HOLLAND, W. J., Everyday Butterflies, S. H. SCUDDER, 67 ; *Rhopalocera Äthiopica*, Chr. Aurivilius, 421 ; *Diplodocus*, Marsh, 816
 HOLLIK, ARTHUR, Fossil Flora, David White, 860
 HOLMAN, S. W., Logarithm Tables, 396
 HOLMES, J. A., The Deep Well at Wilmington, N. C., 128 ; Maryland's Highway Report, 536
 HOVEY, E. O., Floating Sand and Stones, 912
 HOWE, JAS. LEWIS, White Paints, G. H. Ellis, 622 ; Electrolytic Dissociation, H. C. Jones, 902 ; Periodic System, 1012
 Hubbard, Oliver Payson, J. J. STEVENSON and A. A. JULIEN, 742
 HUMPHREYS, W. J., Philos. Soc. of Univ. Va., 32
 HUTTON, F. W., 'New Darwinism', 588
 Huxley Memorial, Unveiling of, 818
 Hydrogen, Liquid, JAMES DEWAR, 641 ; Solid, 674
 Hymenoptera, Wings of, CHARLES ROBERTSON, 112
 Ihring, H. von, Die Conchylien, J. B. HATCHER, 263
 Indian University for Research, 276
 Infinitesimals, C. S. PEIRCE, 430
 Information Wanted, G. V. N. DEARBORN, 670
 Investigation, Universities and, THOMAS DWIGHT, 51, R. H. CHITTENDEN, 53, JOSEPH JASTROW, 57, D. T. MACDOUGAL, 60, WM. PATTEN, 62
 Irish, C. W., Qualitative Anal., T. WHITTELSEY, 862
 J., E. O., Bacteria, G. Newman, 70
 JASTROW, JOSEPH, Universities and Investigation, 57 ; Evolution of General Ideas, Th. Ribot, 186 ; The Unknown, C. Flammarion, 945
 Jaubert, G. F., Matières odorantes artificielles, 710 ; and *Polyphénol*, M. T. BOGERT, 823
 JEFFERSON, M. S. W. M. T. BOGERT, R. DeC. Ward, 68
 JONES, HARRY C., The Van't Hoff Celebration, 241
 Jones, H. C., Electrolytic Dissociation, J. L. HOWE, 902
 JORDAN, DAVID STARR, Principles of Sciosophy, 763
 JORDAN, E. O., Bacteria, W. Migula, 585
 Jordan, W. H., and F. H. Hall, Digestibility of American Feeding Stuffs, E. W. Allen, 988
 JUDD, CHARLES H., Anthropology and Psychology, N. Y. Acad. of Sci., 313, 508, 587, 827, 899
 JULIEN, ALEXIS A., Geology and Mineralogy, at the N. Y. Acad. of Sci., 110, 229, 427 ; and J. J. STEVENSON, Oliver Payson Hubbard, 742
 Kansas Academy of Science, E. H. S. B., 152
 KEELER, JAMES E., and GEO. A. HILL, Observations with the Meridian Circle, 72
 KELLOGG, V. L., Insects, George H. Carpenter, 309
 KEMP, J. F., Reception and Exhibition of New York Academy of Sciences, 702 ; Geological Society of America, 98, and A. S. Eakle, 140
 Kemp, J. F., Ore Deposits, S. F. EMMONS, 503
 KEYES, CHARLES P., Arrangement of Ore Deposits, 631 ; Coal Floras, 898

- KEYSER, C. J., Differential Calculus, J. McMahon and V. Snyder, 547
 KINGSLEY, J. S., Amer. Morph. Soc., 167; Comparative Physiol. and Morphol. of Animals, Joseph Le Conte, 661
 Kingsley, J. S., Zoology, J. REIGHARD, 344
 Kingsley's Criticism, A Reply, JOSEPH LE CONTE, 909
 Kofoid, C. A., Plankton, 255
 Korschelt E., and K. Heider, Embryology of Invertebrates, W. M. WHEELER, 148
 KRUG, WM. H., Chemical Society of Washington, 152, 189, 666, 866
 Kupfer, Karl von, BASHFORD DEAN, 364
 L., F. A., Zoological Notes, 35, 397; Gratacap on the Making of a Museum, 755
 Laboratory, at Beaufort, N. C., H. V. WILSON, 674, of Ohio State University, 835
 LAMB, D. S., Association of Am. Anatomists, 414
 Lampreys in Captivity, ALBERT M. REESE, 555
 Landolt, H., Optical Activity and Chemical Composition, W. R. OENDORFF, 824
 Langley, S. P., Solar Eclipse of May 28, 1900, 974
 Language of Hawaii, E. D. PRESTON, 841, 894
 Languages, S. American, ALBERT S. GATSCHE, 28
 Lapouge, G. v. L'Aryen, C. C. CLOSSEN, 549
 Latin and Greek, JOHN J. STEVENSON, 801
 Latitude, Variation of, GEO. A. HILL, 166
 LAWSON, A. C., Cordilleran Sec. of Geol. Soc., 219
 LE CONTE, JOSEPH, Prof. Kingsley's Criticism, 909
 Le Conte, Joseph, Comparative Physiology and Morphology of Animals, J. S. KINGSLEY, 661
 Lewis, W. J., Crystallography, C. PALACHE, 70
 Lightning, Dark, R. W. WOOD, 73
 LILLIE, F. R., Organic Evolution, D. K. Schute, 822
 Limpet, A New Abyssal, WM. H. DALL, 914
 LINDEKOHL, A., Kartenentwürfslehre, K. Zöppritz, 181
 LINDLEY, E. H., and WM. L. BRYAN, Science in the Daily Press, 74
 Linguistic Families in Mexico, O. T. MASON, 713
 LLOYD, FRANCIS E., Biology, N. Y. Acad. Sci., 269, 426, 951, and E. G. BRITTON, der Laubmoose, C. Correns, 25
 LOEB, JACQUES, Artificial Parthenogenesis in Sea Urchins, 612; Correction, 1030
 LOEW, OSCAR, New Enzyme, 701; Proteids, 930
 LOEW, O., Mineral Nutrients, D. T. MACDOUGAL, 746
 Logarithm Tables, S. W. HOLMAN, 396
 LUCAS, F. A., Blue Fox Trapping on the Pribilof Islands, 125; Biological Society of Washington, 508, 588, 712, 749, 867; Humanizing Birds, 868
 M., F. R., Constitution du monde, C. Royer, 785
 M. M., The Strength of Materials, J. A. Ewing, 310
 M., O. T., Theodore Poesche, 316
 M., T. C., Diurnal Theory of Earth, M. Andrews and E. G. Stevens, 546; Electrical Units, 554
 MacBride, T. H., Slime Moulds, G. F. ATKINSON, 268
 McCORMICK, J. H., Anthropological Society of Washington, 30, 111, 867
 McCURDY, G. G., A New Paleolithic Station, 792
 MACDOUGAL, D. T., Universities and Investigation, 60; Min. Nutrients, O. Loew, 746; La nature tropicale, J. Costantin, 860; N. Y. Bot. Garden, 935
 MacDougal, D. T., Nature and Work of Plants, CHARLES E. BESSEY, 505
 McMahon, J. and V. Snyder, Differential Calculus, C. J. KEYSER, 547
 MacMillan, C., Minn. Plant Life, C. E. BESSEY, 424
 Magnetism Terrestrial, 156; L. A. BAUER, 651
 Malaria, 36, and Tuberculosis, 258
 Manual and Mechanical Productivity, R. H. THURSTON, 659
 MARK, E. L., '00 or 1900, 753; A Correction, 832
 MARSH, C. D., Plankton of Fresh Water Lakes, 374
 Marsh, O. C., Collections of Vertebrate Fossils, 21
 MASON, O. T., The Races of Man, J. Deniker, 464; Malay Magic, W. W. Skeat, 466; Esquimo, 589; Linguistic Families in Mexico, 713; Cedar Collars of N. A. Indians, 831
 Mathematical Society, American, F. N. COLE, 66, 394, 751; Chicago Section, T. F. HOLGATE, 218
 Mathematics, Applied, the Century's Progress in, R. S. WOODWARD, 41, 81; Fields of Thought in, G. A. MILLER, 528
 Mechanics, International Congress, R. H. THURSTON, 590; of Slow Motions, CHAS. S. SLICHTER, 535
 Medical School of the Future, H. P. BOWDITCH, 681
 MENDENHALL, T. C., Edward Orton, 1
 Meridian Circle, Observations with, GEO. A. HILL, 72; JAMES E. KEELER, 72
 MERRILL, GEORGE P., Sandstone Disintegration, 850
 MERRIMAN, MANSFIELD, Water Supply of Rome, Clemens Herschel, 106; Water Supplies, A. P. Folwell, Allen Hazen, 346
 METCALF, MAYNARD M., Hearing in Ants, 194
 Meteorology, Notes on, R. DEC. WARD, 114, 235, 315, 474, 592, 871, 954; Congress of, A. L. ROTCH, 991
 Mexican Hall, Am. Mus. of Nat. Hist., F. W. PUTNAM, 19
 Meyer, O. E., Kinetic Theory of Gases, EDWIN H. HALL, 984
 Migula, W., Bacteria, E. O. JORDAN, 585
 Mill, H. R., Geography, R. E. DODGE, 704
 MILLER, A. M., Gas Well Pressure, 192
 MILLER, G. A., Thought in Mathematics, 528
 Mollusca, Exotic, R. E. C. STEARNS, 655
 MONTGOMERY, THOMAS L., Correspondence of C. S. Rafinesque and Professor Wm. Wagner, 449
 Moringuid Eels, THEO. GILL, H. M. SMITH, 973
 MORLEY, E. W., Atomic Weight of Oxygen, 281
 Morphological Society, Amer., J. S. KINGSLEY, 167
 MOSES, A. J., Thomas Egerton, 361
 Münsterberg, Hugo, Psychology and Life, GEORGE M. STRATTON, 463
 Museum of State of New York, 473
 Music, Recent Outlooks, C. K. WEAD, 206
 National, University, of, 410; Academy of Sciences, 663; Standardizing Bureau, 696
 Naturalists, Am. Soc., Address of President, W. G. FARLOW, 11; at Chicago, C. B. DAVENPORT, 246
 Nebraska, University of, 76
 Necturus Maculosus Rafinesque, H. W. FOWLER, 555
 NEWCOMB, S., Award of the Watson Medal to David Gill, 721
 NEWCOMBE, F. C., Biological Study in Paris, 736
 'New Darwinism,' F. W. HUTTON, 588
 Newman, G., Bacteria, E. O. J., 70
 N. Y. Acad. of Sciences, R. E. DODGE, 393; Reception and Exhibition, J. F. KEMP, 702
 Nicholson, H. H., Chemistry, J. E. G., 948
 NIPHER, F. E., Photographic Plates and Light, 714
 NOYES, A. A., Physical Chemistry, J. Walker, 904
 NOYES, W. A., Chemistry, F. G. Weichmann, 747; Scientific Chemistry, Wm. A. Tilden, 786; Industrial Chemistry, F. H. Thorp, 786

- O., C. A., Refraction of the Eye, Edward Davis, 622
 O., H. F., Recent Zoo-paleontology, 115
 Onondaga Acad. of Science, H. W. BRITCHER, 31, 230
 Ore Deposits, CHARLES R. KEYES, 631
 ORNDORFF, W. R., Optical Activity and Chemical Composition, H. Landolt, 824
 Orton, Edward, T. C. MENDENHALL, 1; G. K. GILBERT, 6
 OSBORN, H. F., Geological and Faunal Relations, 561; N. Y. Zoological Park, 963
 Oxidase, Inhibiting Action on Diastase, ALBERT F. WOODS, 17
 Oxygen, Breathing, WM. B. SHOBER, 455
- P., E. D., U. S. Coast and Geodetic Survey, 616
 PALACHE, C., Crystallography, W. J. Lewis, 70
 Paleolithic Station, A New, G. G. McCURDY, 792
 Paleontology, Vertebrate, at the Carnegie Museum, J. L. WORTMANN, 163
 Paris Exposition, 715; Congresses, 872
 PARKER, G. H., Zoological Results, A. Willey, 423
 Parker, T. J., and W. A. Haswell, Manual of Zoology, E. B. W., 821
 Parthenogenesis, Artificial, JACQUES LOEB, 612
 Patents and the Industries, R. H. THURSTON, 593
 PATTEN, WM., Universities and Investigation, 62
 PEIRCE, C. S., Infinitesimals, 430; Decennial Celebration of Clark University, 620
 Periodic System, JAS. LEWIS HOWE, 1012
 Philippines, Diseases prevalent in the, SIMON FLEXNER and LEWELLYS F. BARKER, 521
 Philosophical Society, of Washington, E. D. PRESTON, 29, 72, 227, 350, 428, 468, 553, 666, 789; of the University of Virginia, W. S. HUMPHREY, 32
 Phosphorescence, C. L. FRANKLIN, 954
 Photographic Plates, in Light, F. E. NIPHER, 714; in the Dark, W. J. RUSSELL, 487
 Physician, Sociological Status, C. J. BLAKE, 772
 Physicians and Surgeons, American Congress of, 157
 Physics, Notes on, W. S. F., 352, 396, 555, 590, 789, 832, 913, 994; F. C. C., 396
 Physiology, Notes on, W. M. DAVIS, 34, 154, 234, 314, 433, 515, 591, 671, 753, 790, 870, 956, 1032
 Piazzi's Star Observations, H. S. DAVIS, 578
 Pictographs, Indian, C. N. GOULD, 630
 Pigments of the Coccid Chionaspis Furfura, Fitch; T. D. A. COCKERELL, 671
 Plague, Anti-Inoculation, 470
 Plankton, Ill. Biol. Station, C. A. KOFOID, 255; of Fresh Water Lakes, C. DWIGHT MARSH, 374
 Plant, Material, G. F. ATKINSON, 272; Morphology and Physiology, Soc. for, W. F. GANONG, 299
 Plot Experiments, B. D. HALSTED, 726
 Plumages and Moults of the Indigo Bunting, JONATHAN DWIGHT, JR., 627
 Poesche, Theodore, O. T. M., 316
 Porto Rico, Official Spelling of, ROBERT T. HILL, 712
 Pozzi-Escot, E., Analyse microchimique et spectroscopique, E. M. CHAMOT, 861
 Prehistoric Remains in Japan, G. F. WRIGHT, 990
 PRESTON, E. D., Philos. Soc. of Washington, 29, 72, 227, 350, 428, 468, 553, 666, 789; Language of Hawaii, 841, 894; Range of Temperature, 913
 Proteids of Living Matter, OSCAR LOEW, 930
 Psychological Association, Amer., L. FARRAND, 132
 Psychology and Social Practice, JOHN DEWEY, 321
 PUTNAM, F. W., Mexican Hall of Amer. Museum of Natural History, 19
 Rafinesque, C. S., and Professor Wm. Wagner, Correspondence of, THOMAS L. MONTGOMERY, 449
 RANSOME, F. L., and DAVID WHITE, Geological Soc. of Washington, 187, 228, 348, 429, 507, 588, 824
 Rayleigh's Scientific Papers, CARL BARUS, 580
 Reactions of the Lower Animals against Injury, G. V. N. DEARBORN, 270
 REESE, ALBERT M., Lampreys in Captivity, 555
 REHN, J. A. G., Seals in the Amazon Drainage, 991
 REIGHARD, JACOB, Zoology, J. S. KINGSLEY, 344; Biological Sciences and the People, 966
 RENOUF, E., Chemical Analysis, C. W. ELIOT and F. H. STORER, v. Richter's Organic Chemistry, 823
 Repository, National, for Science and Art, 875
 RIBOT, TH., Evolution of General Ideas, JOSEPH JASTROW, 186
 RICE, H. S., Interpolation, C. L. DOOLITTLE, 1026
 Richter, Victor von, Organic Chemistry, E. RENOUF, 823
 RIGGS, E. S., Fossil-hunting in Wyoming, 233
 RITTER, WM. E., Ascidia, W. A. HERDMAN, 108
 Rivers, W. H. R., Senses of Primitive Man, 740
 ROBERTSON, CHARLES, Wings of Hymenoptera, 112
 ROTCH, A. L., Solar Eclipse, 752; Congress of Meteorology, 991
 Rotch, A. L., Blue Hill Meteorological Observatory, R. DEC. WARD, 467
 ROWE, S. H., Physical Nature of the Child, WM. H. BURNHAM, 27
 Royal Society of Canada, H. M. AMI, 1020
 ROYCE, J., World and Individual, R. M. WENLEY, 743
 Royer, Constitution du monde, F. R. M., 785
 Russell, W. J., Pictures produced on Photographic Plates in the Dark, 487
 S., F. W., Texas Academy of Sciences, 231, 395, 469
 S., G. N. I., Electro-physiology, W. BIEDERMANN, 146
 S., H. S., Gleanings from Nature, W. S. Blatchley, 108
 St. Louis Academy of Science, WILLIAM TRELEASE, 72, 352, 470, 509, 552, 711, 751, 827, 950
 Sandstone Disintegration, GEORGE P. MERRILL, 850
 SCHUCHERT, CHARLES, Palaeozoic Reticulate Sponges, James Hall and J. M. Clark, 391
 Science, in the Daily Press, E. H. LINDLEY and WM. L. BRYAN, 74; in the Newspaper, 74; Applied, in Municipal Work, R. H. THURSTON, 833
 Scientific Books, 24, 67, 106, 146, 181, 223, 260, 309, 344, 389, 421, 463, 503, 546, 580, 620, 659, 704, 743, 785, 821, 858, 902, 980, 1024; Notes and News, 38, 77, 117, 157, 197, 237, 276, 316, 356, 398, 436, 475, 517, 556, 595, 634, 676, 716, 753, 794, 836, 876, 916, 997, 1036; Journals and Articles, 71, 109, 151, 187, 227, 311, 348, 392, 426, 549, 586, 623, 663, 747, 787, 824, 864, 908, 989, 1027; Societies, International Association, of, 121
 Sciosophy, Principles of, DAVID STARR JORDAN, 763
 SCRIPTURE, E. W., Anthropology at the American Association, 136; Electrical Anesthesia, 153
 SCUDDER, S. H., Everyday Butterflies, W. J. HOLLAND, 67
 Seabirds a Sanitary Necessity, 512
 Seals, JAMES A. G. REHN, 991
 SEDGWICK, A., Variation, Reproduction and Sex, 881, 923
 Sharp, David, Insects, J. H. COMSTOCK, 389
 SHOBER, WM. B., Breathing Oxygen, 455
 Shute, D. K., Organic Evolution, F. R. LILLIE, 822
 Siamese Malay Straits, Expedition, 915

- Sigma Xi, 965
 SIMONDS, F. W., Floating Sands, Floating Stones, 510
 Skeat, W. W., Malay Magic, O. T. MASON, 466
 SLICHTER, C. S., Mechanics of Slow Motions, 535
 SMALL, J. K., Torrey Botanical Club, 952
 Smile and the Laugh, G. V. N. DEARBORN, 851
 SMITH, EUGENE A., Alabama Industrial and Scientific Society, 32; Truck for Minerals, 992.
 SMITH, H. I., Archaeology in Ontario, 715; in Alabama, 791; Arrowpoints, Spearheads and Knives, 834
 SMITH, H. M., and THEO. GILL, Moringuoid Eels, 973
 Snyder, H., Soils and Fertilizers, G. S. FRAPS, 785
 Societies and Academies, 29, 72, 110, 151, 187, 227, 269, 311, 348, 393, 426, 468, 507, 550, 587, 624, 663, 711, 749, 788, 824, 858, 908
 Solar Eclipse, 761, 974; R. W. WOOD, 667; A. LAWRENCE ROTCH, 752
 Species and Subspecies, BARTON W. EVERMANN, 451
 Spirit-lore of the Micronesians, A. S. G., 471
 STANLEY, HIRAM M., Highhole Courtship, 832
 STANTON, T. W., Biological Society of Washington, 188, 313, 349
 Starbuck, E. D., Psychology of Religion, GEORGE A. COE, 862
 Steam-turbine, R. H. THURSTON, 972
 STEARNS, ROBERT E. C., Exotic Mollusca, 655
 STEVENS, W. LE CONTE, Educational Values, 481
 STEVENSON, JOHN J., Latin and Greek, 801; and A. A. JULIEN, Oliver Payson Hubbard, 742
 STOKES, H. N., Atomic Theory, 601
 Stout, G. F., Psychology, I. M. BENTLEY, 705
 STRATTON, GEORGE M., Psychology and Life, Hugo Münsterberg, 463
 Suter's Optics, FRANK P. WHITMAN, 949
 T., R. H., Report of Navy Department on Steam Engineering, 223; California Mines and Minerals, E. H. Benjamin, 347; Engineering Notes, 353; De praktische toepassing, W. S. Auchincloss, 506
 Tarde, G., Social Laws, LESTER F. WARD, 260
 Technical Terms, Misuse of, D. W. HERING, 1028
 Temperature, Diurnal Range of, E. D. PRESTON, 913
 Texas Academy of Science, F. W. S., 230, 395, 469
 Thermodynamics, Applied, R. H. THURSTON, 472
 THORNDIKE, EDWARD, Do Fishes Remember, 273
 Thorpe, F. H., Chemistry, W. A. NOYES, 786
 THURSTON, R. H., Engineering Notes, 353, 1030; Comfort and Productivity, 435; Applied Thermodynamics, 472; A Neglected Department, 473; Congress of Mechanics, 590; Patents and the Industries, 593; Manual and Mechanical Productivity, 659; Aluminium-Magnesium Alloys, 783; Applied Science in Municipal Work, 833; Steam Turbine, 972
 Tilden, Wm. A., Scientific Chemistry, W. A. NOYES, 786
 Tobacco, Tobacco Pipes and Smoking, A. S. G., 633
 Topographic Survey of Ohio, A. A. WRIGHT, 714
 Torrey Botan. Club, E. S. BURGESS, 351, 551, 665, 712, 828; L. M. UNDERWOOD, 428; J. K. SMALL, 952
 TRELEASE, WILLIAM, St. Louis Acad. of Sci., 72, 352, 470, 509, 552, 711, 751, 827, 950; Cyclopedias of Amer. Horticulture, L. H. Bailey and W. Miller, 858
 Trowbridge, J., on Electrical Pressure, 1033
 Truck for Minerals, EUGENE A. SMITH, 992
 TUCKER, R. H., Meridian Earthquake, 215
 UNDERWOOD, L. M., Torrey Botanical Club, 428
 University and Educational News, 40, 80, 119, 160, 200, 240, 280, 320, 359, 400, 440, 478, 520, 560, 600, 639, 680, 719, 756, 760, 800, 840, 880, 919, 999, 1039
 VAN HISE, C. R., Building Stones of Wisconsin, 191
 Van't Hoff Celebration, HARRY C. JONES, 24
 Variation, Reproduction and Sex, A. SEDGWICK, 881, 925
 Vernon on Certain Laws of Variation, 793
 Vertebrates, Cold-blooded of N. A. Caves, Eyes of, C. H. EIGENMANN, 492
 W., E. B., Zoology, T. J. PARKER and W. A. HASWELL, 821
 Wagner Free Institute of Science, 236
 Walker, J., Physical Chemistry, A. A. NOYES, 904
 WARD, LESTER F., Social Laws, G. TARDE, 260
 WARD, R. DEC., Current Notes on Meteorology, 114, 235, 315, 474, 592, 871, 954
 Washington Academy of Sciences, 158
 WEAD, C. K., Music, 206; Acoustics, 732
 Weather Conditions of New York City in June, 996
 WEBBER, H. J., Biological Soc. of Washington, 827
 Well, Deep, at Wilmington, J. A. HOLMES, 128
 Welton, J., Logical Bases of Education, PAUL H. HANUS, 1024
 WENLEY, R. M., The World and the Individual, Josiah Royce, 743
 WHEELER, W. M., Embryology of Invertebrates, E. Korschelt and K. Heider, 148
 White, David, Fossil Flora, ARTHUR HOLICK, 860
 WHITE, THEODORE G., Geology and Mineralogy, New York Academy of Science, 625, 750
 WHITMAN, FRANK P., Suter's Optics, 949
 WHITNEY, MARY W., Eclipse of May 28th, 992
 WHITTELSEY T., Qualitative Analysis, C. W. IRISH, 862
 Wiechmann, F. C., Chemistry, W. A. NOYES, 747
 Wisconsin, Science Club of the University of, WM. H. HOBBS, 72, 311, 665, 829, 908; Academy of Science, Arts and Letters, A. S. FLINT, 151
 Willey, A., Zoological Results, G. H. PARKER, 423
 WILSON, H. V., Laboratory of U. S. Fish Commission at Beaufort, N. C., 674
 WILSON, THOMAS, Reply to Critics, 33
 Wireless Telegraphy, Navy Report on, 37
 WOLFF, JR., FRANK A., Electrical Standards, 403
 WOOD, R. W., Dark Lightning, 73; Solar Eclipse, 667
 WOODMAN, DURAND, N. Y. Sec. of Amer. Chemical Society, 189, 352, 752, 865
 WOODS, ALBERT F., Oxidase and Diastase, 17
 WOODWARD, R. S., The Century's Progress in Applied Mathematics, 41, 81
 WORTMANN, J. L., Vertebrate Paleontology at the Carnegie Museum, 163
 WRIGHT, A. A., Topographic Survey of Ohio, 714
 WRIGHT, G. F., Prehistoric Remains in Japan, 990
 X-rays and Photographic Plates, 675
 Zittel, Karl A. von, Paleontology, F. A. BATHER, 980
 Zoo-geographical Relations of Africa, THEO. GILL, 900
 Zoological Club of Univ. of Chicago, C. M. CHILD, 189, 312, 509, 788; Notes, F. A. L., 35, 397; H. C. B., 435; Park, N. Y., H. F. OSBORN, 963
 Zoo-paleontology, Recent, H. F. O., 115
 Zöppritz, K., Kartententwurfslehre, A. LINDEMOKHOL, 181