

# INDEX TO VOLUME VII.

\*\*\* Names of contributors are printed in small capitals.

- Abbott's Scientific theism, reviewed, 335.  
 Abbott collection at the Peabody museum, 4.  
 Ability of the young of the human species, equality in, 36, 80.  
 Accidents in mines, 459.  
 Acclimatization, 169.  
 Actinomycosis, 348.  
 ADAMS, C. K. Science at Cornell, 391.  
 Adams, H., on removals attributed to Jefferson, 430.  
 Adirondacks, southern, 454.  
 Admission to college, science vs. the classics as a requisite for, 383.  
 Aerolite, 456.  
 Africa, a railroad in central, 67; South, rainfall in, *map*, 151.  
 African inland sea, North, M. de Lesseps and, 112; lakes, geology of, 416.  
 Agricultural bureau, distribution of seeds by the, 7; conventions at St. Louis, 116; experiments, 295; experiment-station at Cornell, appropriation for, 117; third report of, reviewed, 205; Connecticut, annual report of, 284; New Jersey, 528; New York, 371; fourth annual report of, reviewed, 315; North Carolina, 448; experiment-stations, 237, 349, 434; industries of Japan, 463.  
 Agriculture, relation of birds to, 201.  
 Air, elasticity of, at low pressure, 161.  
 Alaska, explorations in, reviewed, 95; history of, 292; late news from, 48; new expedition to, 566; ruminants of the Copper-River region, 57.  
 Albatross, 99, 300, 325, 413, 435, 536.  
 Aleutian Islands, winter climate of the, 46.  
 Allan, W., on the Pope campaign, 431.  
 ALLEN, H. Muscles of the hind-limb of *Chiromeles torquatus*, 506.  
 ALLEN, H. T. Ruminants of the Copper-River region, Alaska, 57.  
 ALLEN, J. A. The present wholesale destruction of bird-life in the United States, 151.  
 ALLEN, J. M. The festoon cloud, 144.  
 Alphabet, legibility of letters of the, *ill.* 128.  
 Alps, glaciers in, 569; visible summits of, 164.  
 Altai Mountains, a trip to the, *map*, 18.  
 Amazon, Upe Indians of the, 301.  
 Amblystoma and Gordius, 550.  
 American academy of arts and sciences, 503; association for the advancement of science, 324, 546; climatological association, 453; economic association, 209, 213; engineers' meeting, 92; fishery interests, 113; historical association, 429; journal of archeology, 71; museum of natural history to be free to public on Sundays, 434; ornithologists' union committee on bird-protection, 205; public health association, 324; society for prevention of bird-destruction, 185; for psychical research, 89, 123, 145.  
 Amherst students, eyesight of, 414.  
 Amphibia, 395, 462.  
 Amphibians and reptiles, catalogue of, 140.  
 Anachronisms of pictures, 264, 307.  
 Anatomical museums, needs and shortcomings of, 339; preparations at Washington, 163.  
 Anatomists, a task for, 428.  
 Anatomy, recent text-books on methods in microscopic, 64, 100; and comparative anatomy, distinction between, 328.  
 Andree's Allgemeiner handatlas, 505.  
 Animal and plant habits, 100; industry, bureau of, 456; kingdom, distribution of colors in the, 557.  
 Animals, origin of fat in, 444.  
 Annisquam, Seaside laboratory at, 368; summer school at, 286.  
 Anrep on ptomaines, 411.  
 Anthropological and biological societies, course of lectures under the auspices of, 326.  
 Antilegomena, facsimile of the, 153.  
 Antiquities, the trade in spurious Mexican, *ill.* 170.  
 Aplodontia, new species of, 219.  
 Appalachian mountain club, 236; map of the White Mountains, 516.  
 Apparitions and haunted houses, 341.  
 Appleton's Annual cyclopaedia, astronomy in, 534.  
 Appointments, scientific, 185.  
 Appropriations recommended for the scientific bureaus, 568.  
 Arabic inscription, ancient, in the Sahara, 161.  
 Archeology, American journal of, 71; Roman, 492.  
 Archives slaves de biologie, 212.  
 Arctic exploration, did Dr. Haves reach Cape Lieber in his, of 1861? 165.  
 Argentine Republic, trade-route between Bolivia and the, 299.  
 ARMSBY, H. P. Imitation butter, 471.  
 Armstrong, William, donation from, to scientific relief fund, 139.  
 Army and navy, a scientific corps for the, 142.  
 Arrows, penetrating-power of, 328, 528, 550.  
 Arsenic in wall-paper, 371, 392.  
 Artesian wells, 264.  
 Ashburner, C. A., on geology and mining of petroleum and natural gas, 163.  
 Asia, ethnographic map of, 368; expedition into central, 547; railway to central, 277; trip of a naturalist to central, 479.  
 Assyrian journal, new, 351.  
 Asteroid, discovery of a new, 435.  
 Asteroids, three new, 326.  
 Astronomical activity, 568; notes, 49, 73, 161, 368, 567; work for amateurs, manual of, 263.  
 Astronomy in Appleton's Annual cyclopaedia, 534; popular, 365, 392, 484.  
 Atlantic, deep-sea explorations in the, 570; pilot chart for April, 325; wreck floating in the, 50.  
 Atlas, Berghaus's, 436.  
 Atlases, two historical, 51.  
 Atmospheres, equatorial currents in star and planetary, 13.  
 Aubry, return of, to Paris, 49.  
 Auchincloss on valve-gearing of steam-engines, 304.  
 Audubon society, organization of Smith college branch of, 436.  
 Aurora borealis, 139.  
 Australia, production of gold in, 547.  
 Ayers, Howard, appointment of, as instructor in zoology at Harvard, 569.  
 BABBITT, Franc E. Some Ojibwa and Dakota practices, 526.  
 Bacon, Lord, science and, 143.  
 Bacteria and disease, 422; in break-bone fever, 139.  
 Bacteriological studies, 186.  
 Bacteriology, literature of, 414.  
 Bahama Islands, collections in, by the Albatross, 536.  
 Baird, S. F., award of gold medal to, 547.  
 Baku, oil-wells of, 149.  
 Bald-headed men in America, 110.  
 BALL, R. S. Popular astronomy, 484.  
 Ball's Story of the heavens, reviewed, 365.  
 Baltimore tax commission, report of the, 45.  
 Bancroft's History of Alaska, 308; reviewed, 292.  
 Barlow's New theories of matter and force, reviewed, 294.  
 Barometer exposure, 481, 550, 571, 572.  
 Barometric pressure, areas of high, over Europe and Asia, 369.  
 BARTLETT, E. J. Death-rates among college graduates, 124.  
 BARTLETT, J. R. Deep-sea soundings in the Atlantic, *ill.* 387; in the South Pacific, *ill.* 252.  
 Batrachians, habits of, 220; and reptiles of North America, 327.  
 Bats embedded in coal, 406.  
 Battery, new form of, 53.  
 BAUR, G. Habits of batrachians, 220.  
 Bavaria, death of physician of king of, 538.  
 Bayonets, worthless, 93.  
 Beedoe's Races of Britain, reviewed, 84.  
 Bee-hives and bee-habits, 127.  
 Bell, A. G., on ancestry of the deaf, 385; on deaf-mutes in the United States, 214.  
 Bell's Climatology reviewed, 316.  
 BENEDICT, J. E. Surface-collecting on the Albatross, 300.  
 Bernard, C., unveiling of statue of, 213.  
 Bert, P., departure of, for Tonquin, 212.  
 Bessels, Dr. E., burning of library of, 7.  
 Bibliography of Indian languages, 858.  
 Bilhoola, language of the, in British Columbia, 218.  
 Bimetallism, 534.  
 Biology, losses to English, during 1885, 31.  
 Bird-destruction, American society for prevention of, 185.  
 Bird-laws, 202.  
 Bird-life, destruction of, in the vicinity of New York, 197; wholesale destruction of, in the United States, 191.  
 Bird-migration, 162; premiums for papers on, 414.  
 Bird-protection, American ornithologists' union committee on, 205; in England, 162.  
 Birds, an appeal to the women of the country in behalf of, 204; and insects, relation of, 111; code and check-list of North American, 374; cross-fertilization of plants by, *ill.* 441; destruction of, 191, 196, 197, 199, 201, 202, 204, 205, 241; for fashion's sake, 111; for millinery purposes, 196; the eggs of, for food, 199; relation of, to agriculture, 201.  
 Birmingham, exhibition of local manufactures at, 138.  
 Bishop's ring during solar eclipses, 239.  
 Black Sea, proposed trade outlet on the, 424.  
 Blind, sense of touch, and the teaching of the, 271.  
 Blindness in Russia, 291.  
 BLISH, W. G. The moon's atmosphere, 124.

- Bloch, A., on Gambetta's brain, 348.  
 Blondes and brunettes in Germany, 129.  
 Blood, new method to prevent coagulation of, 283.  
 Blue Hill meteorological observatory, observations made at, 306.  
 Boas, F. The language of the Bilhoola in British Columbia, 218.  
 Boeddicker, Dr., observations of, 73.  
 Bolivia, trade-route between, and the Argentine Republic, 399.  
 Bolton's Preservation of timber, reviewed, 176.  
 Bones, deformities of, among the ancient Peruvians, 130.  
 Book-making, thoughtless, 362.  
 Book-manufacture in ancient Rome, 467.  
 Books, number of, published in the United States, 186; scientific, 305, 505; cost of, 101.  
 Bordeaux, Philomathical society of, 416.  
 Borneo, condition of, 96.  
 Boroughs, Pennsylvania, 455.  
 Boston, female medical students in, 456.  
 Botanic garden, Montreal, 350.  
 Botanical gazette for January, 100; instruction in this country, 251.  
 Botany, Coulter's Rocky Mountain, 74; course of lessons in, 370.  
 Bottle found near Colon, 325; picked up on Palmyra Island, 457.  
 Bouchard, C., on the toxicity of urine, 410, 547.  
 BOUTELLE, C. O. On a geodetic survey of the United States, 460.  
 BOWERS, S. Relics from an Indian grave, *ill.* 34.  
 Bradshaw, Henry, death of, 234.  
 Brain, localization of functions in the, 112; of Gambetta, 348.  
 Brazil, geological survey in, 523; mouse-plague of, 126.  
 Bressa prize, 525.  
 Britain, races of, 84; weather in, 545.  
 British association, 478; museum, ethnological collections of, 436; people, occupations of the, 552.  
 British India, statistics concerning, 457.  
 Brooklyn, typhoid in, 45.  
 Brooks, H. Topographical models or relief-maps, 418.  
 Brown, A., on the early history of Virginia, 430.  
 Browne's Water-meters, reviewed, 176.  
 Bruen, E. F., on the southern Adirondacks, 454.  
 Buffaloes, company to breed, 559; search for, 549.  
 Buffalo-hunt, a final, 520.  
 Bugs, check-list of North American, 238.  
 Building-stone, decay of, 93.  
 Bullard, W. N., on tea-poisoning, 349.  
 Bureau of animal industry, 456; of public works, engineers' recommendation of a civil, 1.  
 Bureaus of government, appropriations recommended for the scientific, 568; consolidation of, 100, 238; joint committee of congress on, 7.  
 Burial-casket, metallic, 186.  
 Burial-place, an ancient, near Paris, 74.  
 Buried workmen, valuable method of seeking for, 410.  
 Burmah, present and future, 62.  
 Burmese, metal-work of, 333.  
 BUTLER, A. W. The destruction of birds, 241.  
 BUTLER, N. M. Educational tendencies in Japan and in America, 287; settlement of labor differences, 339; the collapse of the theosophists, 81; the competition of convict labor, 68, 117, 143, 220; the convict-labor problem, 28.  
 Butter, imitation, 471; substitutes, report on, at Berlin, 537; test for purity of, 524.  
 Butterfly larva, a carnivorous, 394.  
 C. H. An old-time salt-storm, 440.  
 C. V. Vienna letter, 282.  
 Cabot, John, landfall of, 430.  
 Caldwell, W. H., on marsupials, 546.  
 Cambridge, Eng., engineering trips at, 282.  
 Canada, tidal observations in, 1.  
 Canal, a proposed, between the Sea of Azov and the Caspian Sea, 237; between the White and Baltic seas, 457.  
 CARMAN, E. S. The claimed wheat and rye hybrid, 190.  
 Carnegie's Triumphant democracy, 350.  
 Carnelley's Melting and boiling point tables, 326, 549.  
 Cartwright lectures on physiology, 320.  
 Catalogue of amphibians and reptiles, 140; prepared by Professor Douglas, 6.  
 Catalogues, great cost of library, 156.  
 Cazin's Phenomena and laws of heat, reviewed, 176.  
 Cell-nucleus, amoeboid movement of the, 35.  
 Census, German quinquennial, 176, 415; of the Great Lake fisheries, 163.  
 Central America, volcanic eruption in, 116.  
 Centurus, 536.  
 Cerebral excitability after death, 16.  
 Chalk, formation of structureless, by seaweeds, 575.  
 Challenger report on the Lamellibranchiata, reviewed, 250; volumes, 330.  
 Chamberlain, M., on public documents, 430.  
 Chamberlin on artesian wells, 264.  
 CHANNING, E. A new route to south-western China, *map*, 137.  
 Channing, E., on the social condition of New England, 430.  
 Charities and correction, international record of, 306.  
 Cheiromeles torquatus, 506.  
 Chemical tables, 176.  
 Chemicals and fish, 458.  
 Chemistry, inorganic, 261; introduction to study of, 463; of cookery, 66; study of, 468; summer course in, at Harvard, 283; thermal, 314.  
 Cherry tortrix, 58.  
 Chesapeake zoological laboratory, 456.  
 Chevreul, old age of, 213.  
 Chierici, Father Gaetano, death of, 123.  
 Children, characters of, as evidenced by their powers of observation, 288; happiness of, 449.  
 Chibmo, earthquake in, 117.  
 China, a new route to south-western, *map*, 137.  
 Chinook winds, 23, *ill.* 55, 242.  
 Cholera, 303; in Europe, 435; in Spain, 68, 230; mortality in Europe during 1885, 62.  
 Church's Statics and dynamics, reviewed, 316.  
 Cinchona-trees, 371.  
 Cincinnati weather journal, 306; zoological garden, financial difficulty of the, 90.  
 Clark, Alvan, an honor to, 350; sixtieth anniversary of the wedding of, 303.  
 Clark and Sadler's Star-guide, reviewed, 470.  
 Clarke, E. C., on cement tests, 93.  
 CLARKE, J. F. The moon's atmosphere, 31, 124.  
 CLAYTON, H. H. Barometer exposure, 484, 572; the festoon cloud, 100; thermometer exposure and the contour of the earth's surface, 439.  
 Cliff-picture in Colorado, *ill.* 80, 141.  
 Climate and cosmology, 491; Montana, 167; of New Jersey shore, 50; strange theory of our, 515.  
 Climatology, congress for discussing, 569.  
 Cloud, the festoon, 57, 100, 144.  
 Clouds of a tornado, festoon, 124.  
 Coal, statistics concerning, 349, 435.  
 Coal-consumption, 458.  
 Coal-mine explosions, 389.  
 Coal-mines, explosions in, 346; Japanese, 349; means of preventing explosions in, 29.  
 Cobra, venom of the Indian, 88.  
 Cockroach, 369, 386.  
 Cod, success in hatching the eggs of the, *ill.* 26.  
 Cod-hatching at Wood's Holl, 99.  
 Cold wave, the recent, *ill.* 70; weather at the south, 90; in England, 323.  
 Coldest place on earth, 457.  
 Collections of naturalists, 413.  
 College, science vs. the classics as a requisite for admission to, 383.  
 Colleges, religion in, 133.  
 Colonies, European, and their trade, 275; of England, 475.  
 Color, association of sound and, 146.  
 Color-blindness among employees of French railroads, 548.  
 Colorado, cliff-picture in, *ill.* 80, 141; new system of irrigation in, 307.  
 Colors in the animal kingdom, distribution of, 557, 572.  
 Color-sense of the Fijians, 72.  
 Columbus, 429; precursors of, 234.  
 Comet, a new, discovered by W. R. Brooks, 6, 481; Barnard, 161; Biela, 369; Brooks, 49; c. 1886, spectrum of, 538.  
 Comets, two, 368; two bright, 207; two disappointing, 493.  
 Commission on government surveys, 427; on the scientific bureaus, work of the government, 318; report, the scientific, 516.  
 Compayre's History of pedagogy, reviewed, 469.  
 Composite portraits of American Indians, *ill.* 408.  
 COMSTOCK, J. H. A convenient way of indicating localities upon labels, 352.  
 Connecticut, shell-fish in, 59.  
 Construction, materials of, 95.  
 Consumption, a plea for the investigation of the possible cause of, 302; causation of pulmonary, 86.  
 Contagious diseases, method of producing immunity from, 238.  
 Contract, freedom of, 231, 235.  
 Contracts, regulation of, 221.  
 Contributors to Science, 140.  
 Convict labor, competition of, 68, 117, 143, 168, 220; problem, the, 28.  
 COOK, A. J. Bee-hives and bee-habits, 127; nectar-secreting plant-lice, 102; the cherry tortrix, 58.  
 Cooking and dieting, 66.  
 Coolidge, T. J., jun., on municipal government in Massachusetts, 430.  
 Cooling of bodies, nocturnal, 329.  
 Cope, E. D., on the phylogeny of the Batrachia and placental mammalia, 369.  
 Copper, effects of, on dogs and rabbits, 348.  
 Copyright, extension of, 134; international, 52, 111, 135, 140, 219, 327.  
 Cornell, appropriation for experiment-station at, 117; as a university, 339; experiment-station, third report of, reviewed, 205; recent changes in, 4; remarkable growth of, 251; Sage professorship of ethics and philosophy at, 74; science at, 352, 391, 416; summer course in entomology at, 415.  
 Corpus callosum, 549.  
 Corydalis cornutus, 525.  
 Cosmogony, 305.  
 Cosmos club of Washington, 163; new house for the, 112.  
 Cotterill's Suggested reforms in public schools, reviewed, 44.  
 COVES, E. Is the dodo an extinct bird? 168; the collapse of the theosophists, 102.  
 Coulter's Rocky Mountain botany, 74.  
 Country banker, 425.  
 Cox, C. F. Oil on troubled waters, 77, 101.  
 Crater Lake, Oregon, a proposed national reservation, 179.  
 CRAWFORD, H. D. A swindler abroad again, 286.  
 Cremation considered by the trustees of Mount Auburn cemetery, 91; progress of, 46.

- Criminals, journal devoted to the scientific study of, 46.
- Croll's Climate and cosmology, reviewed, 491.
- Crookshank, E. M., on the cultivation of bacteria, 345.
- Cross-fertilization of plants by birds, *ill.* 441.
- CROZIER, A. A. Evidences of glacial action on the shores of Lake Superior, 145.
- Crusoe island, 415.
- Cullum, G. W., on the attack on Washington in 1814, 430.
- CUNNINGHAM, K. M. New find of fossil diatoms, 35.
- Currents of the North Sea, 22.
- Curtin, R. G., on Rocky Mountain fever, 454.
- Cyprus under British rule, 576.
- D. Total-abstinence teaching in the schools, 115.
- D., A. M. Poison rings, 418; phylloxera, 307.
- D., W. M. Bishop's ring during solar eclipses, 239; date of vintage, *ill.* 60; the recent cold wave, *ill.* 70; winter on Mount Washington, 40.
- Dakota practices, some Ojibwa and, 526.
- DALL, W. H. Distribution of colors in the animal kingdom, 572; Schwatka's Along Alaska's great river, 308.
- Dall, W. H., on invertebrates, 351.
- Dall's What we really know about Shakespeare, 66.
- DANA, C. L. The nature of so-called double consciousness and triple consciousness, 311.
- Dana on nervous diseases, 455.
- Dance of Moquis, 349.
- Danish island, a mythical, 96.
- Danube, a study of the, 96.
- DARTON, N. H. The Taconic controversy in a nutshell, 78.
- Darwin, C., biography of, 284.
- Davenport tablets, the, 10, 119, 189, *ill.* 437.
- Davidson, Dr. Thomas, memorial to, 323.
- DAVIS, W. M. A recent ice-storm, 190; a thunder-squall in New England, *ill.* 436; Chinook winds, *ill.* 55; climate and cosmology, 491; currents of the North Sea, 22; sea-level and ocean-currents, 146; the festoon cloud, 57.
- DAWSON, G. M. Chinook winds, 33; names of the Canadian Rocky Mountain peaks, 351.
- Deaf-mutes in the United States, 214.
- Deaf-mutism, congenital, 14.
- Death-rate and sanitation in Russia, 314.
- Death-rates among college graduates, 124; in Alabama, 140.
- Deaths of English scientific men, 282.
- Decapods, 338.
- Deer, hunting of, in New York, 213.
- Deformities of bones among the ancient Peruvians, 130.
- DeLanoy's Rameses the Great, reviewed, 178.
- Dendroeca Kirtlandi, 536.
- Dentistry, encyclopaedia of, 351.
- Destruction of birds, 111, 191, 196, 197, 199, 201, 202, 204, 205, 241; of eggs of birds for food, 199.
- Dewalque, G. library of, 525.
- Dewey, J. Inventory of philosophy taught in American colleges, 353.
- Dialects, some local, 72.
- Diamonds, value of, in South Africa, 348.
- Diathermancy of ebonite, 386, 462.
- Diatoms, new find of fossil, 35.
- Dictionary, a new English, 557; of definitions and technical terms, 22.
- Didima on the health-resorts of Mexico, 454.
- Diet for the sick, 66.
- Digestion in the human stomach, observations upon, 290.
- Diphtheria, new method of treatment of, 492.
- Disease, bacteria and, 422.
- Diseases, cardiac, 454; nervous, 455; of the fore-brain, 359; of the vine, 569.
- Disinfection by heat, 165; of cattle-cars, 316.
- Dobson, W. L., on Tasmania, 523.
- Dodo, is the, an extinct bird? 145, 168, 190, 242, 264.
- Dogs, decrease of mad, in Prussia, 412.
- Douglas, Professor, catalogue prepared by, 6.
- DOYLE, K. Oil on troubled waters, 77.
- Draper, J. W., biographical notice of, 385.
- Drugs, action of, at a distance, 522.
- DuBois-Reymond, history of natural science by, 284.
- Dun, W. A., on a local weather bureau, 229.
- DUTCHER, W. Destruction of bird-life in the vicinity of New York, 197.
- DUTTON, C. E. Crater Lake, Oregon, a proposed national reservation, 179.
- Duval, M., appointment of, to professorship of histology, 212.
- Dwarfs, giants and, 82.
- E., O. St. Petersburg letter, 161, 261.
- Ear, sensitiveness of, 570.
- Earthquake at New Orleans, 237; in Chinbo, 117; observations, 301; record for 1884, 116.
- Earthquakes, 348, 570; in Japan, 237; in New Hampshire, 559.
- Ebonite, diathermancy of, 386, 462.
- Eclipse, solar, 161; of August, 1886, 385.
- Economic discussion, aspects of, 538, 572; factor, the state as an, 485, 490.
- Economics, ethics and, 529.
- Economist, a daring, 446.
- Economists, new school of, 361.
- Economy, household, 154.
- EDMONDS, J. R. A monument to de Saussure, 119.
- Education act of 1869, 138; association of Boston, woman's, 250, 368, 370; at Oxford, medical, 322; geographical, 155; in Holland, primary, 457; in Saxony, industrial, 435; in Texas, industrial, 449; movement in St. Petersburg for female medical, 162; physical laboratory in modern, 573; primary, 449; state, 414.
- Educational books and reports, 153; fund, 370; system, some shortcomings of the present, 138; tendencies in Japan and in America, 287.
- Edwards, Thomas, death of, 458.
- Egleston, T., on the decay of building-stone, 93.
- Egyptian exploration, 263.
- Eight-hour day, 59.
- Electrical communication between vessels at sea, 52; conditions of the human body, 390; current, 235; exhibition at St. Petersburg, 117; furnace, Cowles, 369; installation, 235, 545; light, Franklin institute experiment on, 116; in England, the slow adoption of, 53; lighting, 351; domestic, 323; in England, 343; motors for street-railways, 116; railways, 318.
- Electricity employed in physiological investigation, 390.
- ELLIOTT, H. W. Bancroft's History of Alaska, 308.
- Ellis, G. E., on reconstruction of history, 431.
- Elmira, reformatory at, 207.
- ELV, R. T. Ethics and economics, 529.
- Encyclopaedia Britannica, 304; the article 'Psychology' in, 514.
- Endowment of research, national, 284, 307, 374.
- Engineering, study of, at University of London, 285; trips at Cambridge, Eng., 282.
- Engineers' club, Philadelphia, 370; convention at Cleveland, 1.
- England, colonies of, 475; electric lighting in, 343; low temperatures in, 281.
- English biology, losses to, during 1885, 31; dictionary, a new, 557; fishery board, proposed, 344, 431; public schools, science in, 31; scientific men, deaths of, 282; society for psychical research, attack on the theosophical report of, 156; sparrow, 14, 35, 80.
- Enslage commissioners, report of, 545; congress in New York, 99.
- Entomology, summer course in, at Cornell, 415.
- Ephemerides for amateur astronomers, 237.
- Epidemics in Paris during 1834, 521.
- Epilepsy, 533.
- Equality in ability of the young of the human species, 36, 80.
- Equatorial currents in star and planetary atmospheres, 13.
- Equus fauna, 386; geologic age of, 369.
- Errata, 484.
- Eruption of Mount Etna, 237.
- Eskimo building-snow, *ill.* 54, 372, 396; East Greenland, 172.
- Ethics and economics, 529; and philosophy, Sage professorship of, at Cornell university, 74.
- Ethnological collections of British museum, 439.
- Euphrates valley, 470.
- European colonies and their trade, 275.
- Evolution and the faith, 483; of language, 555; of the horses, some points in the, *ill.* 13.
- Exhibition, colonial and Indian, at London, 478; for small industries, 569; international maritime, 434; of appliances for geographical education, 53.
- Expedition to Alaska, new, 566.
- Exploration, Egyptian, 263.
- Explorations in Greenland, hydrographic, 409; in the Atlantic, deep-sea, 570.
- Explosions in coal-mines, 349, 389; means of preventing, 29.
- Explosive, new, 371.
- Exposition in Washington, proposed permanent, 186; international horticultural, 186.
- Extraordinary structure, a most, 572.
- Eyes, diseased, 514.
- Eyesight of Amherst students, 414.
- Faith, evolution and the, 483.
- Famine, fish and, in India, 125.
- FARNSWORTH, P. J. Equality in ability of the young of the human species, 80.
- Fat in animals, origin of, 444.
- FAYE, H. Is the ocean surface depressed? 421.
- FERRER, W. Note on the nocturnal cooling of bodies, 329; sea-level and ocean-currents, 75, 187; the temperature of the moon, 32, 122.
- FIELD, C. Settlement of labor differences, 372; the silver problem, 286.
- Fire, a well-banked, 304.
- Fish and famine in India, 125; commission, English, 323; destruction of, by the cold weather in Florida, 139; in Connecticut, shell, 59; poisonous, 411.
- Fish-cultural station at Gloucester, Mass., 182.
- Fisher's Outlines of Universal history, reviewed, 246.
- Fisheries board of Great Britain, proposed, 341, 431; French sea, 457; injury to, by sewage, 458; Massachusetts inland, 89; interests, American, 113; English, 479; of Newfoundland, seal, 413.
- Fishes, naturalization of, in Tasmanian waters, 44; significance of the term, 295.
- FLETCHER, Alice C. Composite portraits of American Indians, *ill.* 408.
- Flint, Austin, death of, 263.
- Flooding the Sahara, *maps*, 542.
- Flood Rock explosion, General Abbott's report on the, 25.
- Florida, cold weather in, 415; destruction of fish by, 139.
- Flowers, fruits, and leaves, 549.
- Food-accessories: their influence on digestion, 312.

- Food-consumption, 342.  
 Food-materials, 154.  
 Football, game of, 90.  
 Ford, W. A. Tadpoles in winter, 146.  
 Fore-brain, diseases of, the, 359.  
 Forest preserves near Boston, 236.  
 Forest-culture, difficulties of, in the British empire, 559; in southern Kansas, 304.  
 Forum, the, 213.  
 Fossils, catalogue of British, 390.  
 France, new geological map of, 74.  
 Franklin institute experiment on electric light, 116.  
 FRAZER, P. International geological congress at Berlin, 141.  
 Fredericq on the study of history on the continent of Europe, 177.  
 French academy, appointment of secretary of, 370; prizes of, 50; pompous prolixity of the, 418; sea-fisheries, 457.  
 Fresenius, chemical laboratory of, at Wiesbaden, 370.  
 Friction, journal, 93.  
 Frogs, common mouse the enemy of, 549.  
 Froude's Oceana, reviewed, 292.  
 FUERTES, E. A. Underground rivers, 329.  
 Fund, donation from Sir William Armstrong to scientific relief, 139; educational, 370.  
 Fungoid disease, new, 348.  
 Fungus, peculiar, 348.  
 G., A. Names of the Canadian Rocky Mountain peaks, 330; pompous prolixity of the French, 418.  
 G., C. The anachronisms of pictures, 264.  
 GAGE, S. H. Tadpoles in winter, 146.  
 GAGE, S. H. and S. P. Amoeboid movement of the cell-nucleus, 35; combined aerial and aquatic respiration, 394; pharyngeal respiratory movements of adult amphibia under water, 395.  
 Gambetta, brain of, 348.  
 GARMAN, S. Amblystoma and Gordius, 550.  
 Gas, heating-power of, 467; petroleum and natural, 163; as found in Ohio, map, 560; wells of Pennsylvania, oil and, 251.  
 Gas-lamp, new, 282.  
 GASS, J. The Davenport tablets, *ill.* 438.  
 Gautier, A., on ptomaines and leucomaines, 411.  
 Gems, remarkable, *ill.* 399.  
 Geodetic survey of the United States, 460.  
 Geographical education, exhibition of appliances for, 53; notes, 48, 72, 96, 160, 223, 301, 367, 408; report on, 155; research, statistics in regard to, 164; society of Marseilles, death of founder of, 416; royal, 481, 519.  
 Geography, how to teach, 551; devices for teaching historical, 525.  
 Geography-teaching in Germany, 209.  
 Geological and natural history survey of Canada, 459; class of Philadelphia academy of sciences, excursion of, 568; railway guide, 164; report on Marlon county, Ky., 30; survey in Brazil, 523.  
 Geology of African lakes, 416; of Arabia and Palestine, 535.  
 Geometry, study of, 15.  
 Geothlypis, 536.  
 Gerhard's Guide to sanitary house-inspection, 351.  
 German emigrants, 548; universities, 110.  
 Germany, blondes and brunettes in, 129; geography-teaching in, 209.  
 Gheel colony of lunatics, 410.  
 Giants and dwarfs, 82.  
 GILBERT, G. K. An open letter, 166; barometer exposure, 571.  
 Gilbert, G. K., on the Equus fauna, 369, 386.  
 Gilbert's Topographic features of Lake shores, 263.  
 Glacial action on the shores of Lake Superior, evidences of, 145.  
 Glaciers in Alps, 569; of the United States, 264.  
 Glass as a sheathing for ships, 7.  
 Gold, production of, in Australia, 547.  
 Golden Gate, temperature of water of, 238.  
 Goldscheider, A., on the nerves, 459.  
 Goodale, G. L., lessons in botany by, 370.  
 GOODRICH, J. K. Demand for good maps, 79.  
 Gordius, Amblystoma and, 550.  
 GORE, J. W. Correction of thermometers for pressure, 144, 190.  
 Government aid to the Marine biological association, 53; scientific bureaus, difficulties of commission on, 185; surveys, 363, 427.  
 Grafting of solanaceous plants, 187.  
 Gray, Asa, sketch of career and work of, 98.  
 Great Lakes, rise and fall of waters of, 317; white-fish for the, 325.  
 Grecian canal, 214.  
 Greeks, singular custom among the, 237.  
 Greely, Lieutenant, 435; provision for, on retired list, 547.  
 Greely's Three years of arctic service, reviewed, *ill.* 182.  
 GREEN, C. C. Tadpoles in winter, 168.  
 Greenland, expedition to, 385; hydrographic explorations in, 409.  
 Griscom's Farmer's view of a protective tariff, reviewed, 176.  
 Guatemala, 550.  
 Gudden, Dr., death of, 538.  
 Guiana, investigations of Dr. Ten Kate in, 238.  
 Gulf Stream, 237.  
 Guyot, Arnold, biographical sketch of, 369, 385.  
 H., F. H. The destruction of birds, 241.  
 H., G. G. A national university, 12.  
 H., H. W. Primitive marriage, 147; the races of Britain, 84.  
 Haager society for the defence of the Christian religion, prize of, 404.  
 Habits, animal and plant, 100.  
 HADLEY, A. T. How far have modern improvements in production and transportation changed the principle that men should be left free to make their own bargains? 221.  
 Hadley's Railroad transportation, reviewed, 258.  
 Hake, G. G., on the condition of Cyprus since its occupation by the British, 576.  
 HALE, H. Race and language, 399.  
 HALL, A. Reports of the National academy of sciences, 286; science and Lord Bacon, 143; world time, 373.  
 Hall, J., on two plates of stratigraphical sections of the Taconic ranges, 393.  
 HALL, W. H. A waste of public money, 9.  
 Ham's Manual training, reviewed, 492.  
 Hamlin, C. E., death of, 74.  
 Hampshire county, Mass., tornado brood in, 118.  
 Handley's First lessons in philosophy, reviewed, 5.  
 Handwriting of hypnotized persons, 302.  
 Harrison, F., on the spelling of foreign names, 406.  
 Hart, A. B., on graphic methods of illustrating history, 430.  
 Hartmann's Philosophical questions, reviewed, 426.  
 Harvard, anniversary of, 503; moral and religious instruction at, 437; observatory, generous gift to, 503; summer course in chemistry at, 283.  
 Hauer, F. v., annals of Vienna natural history museum, edited by, 304.  
 Haunted houses, apparitions and, 341.  
 HAWORTH, E. A swindler abroad again, 308.  
 HAYNES, H. W. Death of Father Gaetano Chierici, 123.  
 Health, drainage for, 316; Illinois state board of, 449; improvement in England, public, 273; of New York during April, *ill.* 493; during February, *ill.* 258; during March, *ill.* 363; during May, *ill.* 564; sewerage and, 335.  
 Health-resorts of Mexico, 454.  
 Heat and cold, different physiological senses for, 151.  
 Heating-power of gas, 467.  
 Hebrew university, founding of a, in New York City, 237.  
 Heer memorial, 284; monument, 263.  
 Height, ratio of increase of, to increase of bulk in the child, 150.  
 Hemiptera, 369.  
 Henderson's Diet for the sick, reviewed, 66.  
 Henry, W. W., on religious liberty in Virginia, 430.  
 HERRICK, C. L. Certain homologous muscles, 396.  
 Hibbert lectures for 1886, 436.  
 HICKS, J. D. English sparrows, 36.  
 Higgins, H. H., testimonial to, 370.  
 HILGARD, E. W. Absorption of mercurial vapor by soils, 462; Dr. Otto Meyer and the south-western tertiary, 11.  
 HILL, H. M. Tadpoles in winter, 119.  
 HINMAN, R. Partition of Patagonia, 440.  
 Hirn, Adolphe, 524.  
 Historical materials, neglect and destruction of, 430.  
 History, graphic methods of illustrating, 430; study of, on the continent of Europe, 177; reconstruction of, 431.  
 Holcomb, W. P., on Pennsylvania boroughs, 455.  
 HOLDER, C. F. Maori poetry, 330; Marvels of animal life, 220.  
 Holder, J. B., on sea-serpents, 523.  
 Holder's Marvels of animal life, 6.  
 Holland, primary education in, 457.  
 HOLMES, W. H. The trade in spurious Mexican antiquities, *ill.* 170, 264.  
 Holzapfel's Roman chronology, reviewed, 261.  
 Homes, Japanese, and their surroundings, 42.  
 Hopeine, crystallized, 348.  
 Hornaday's Canoe and rifle on the Orinoco, 351.  
 Horses, some points in the evolution of the, *ill.* 13.  
 Horsford, E. N., on the landfall of John Cabot, 430.  
 Hotchkiss, J., on topographical knowledge in battles and campaigns, 431.  
 Houghton, A. B., on the Panama canal, 430.  
 Housekeeper, burning of the, 470.  
 HOYT, J. W. A national university, 121.  
 HUBBARD, G. G. International copyright, 135; railroad to Merv, Bokhara, and Samarkand, 47; the European colonies and their trade, 275.  
 Hudson Bay railway, proposed, 98; route to Europe, 278.  
 Hudson's Railways and the republic, reviewed, 579; Rotifera, reviewed, 402.  
 Hughes, D. E., on an electric current, 235; on self-induction, 442.  
 Hughlings-Jackson on epilepsy, 533.  
 Hull's Geology of Arabia and Palestine, reviewed, 535.  
 Human species, equality in ability of the young of the, 36, 80.  
 Humble-bee, remarkable powers of memory in the, 331.  
 Humboldt Bay, chart of, 456.  
 Hunt, T. S., on the Cowles electrical furnace, 369.  
 Hurricane at Murraysville, Penn., 306.  
 Hussak's Rock-forming minerals, reviewed, 294.  
 HUXLEY, T. H. The proposed fisheries board of Great Britain, 344.  
 Hybrid, the claimed wheat and rye, 56, 190.  
 Hydrographic explorations in Greenland, 409.  
 Hydrology, meeting of international congress of, 304.

- Hydrophobia, evidence of, in dog that bit Kaufmann, 29; in animals, Prussian legislation relating to, 412; in Philadelphia, 426; Pasteur and, 213, 282, 296, 303, 413; statistics concerning, 521; treatment of, 457; virus at Johns Hopkins university, 515.
- Hygiene, journal of, 284.
- Hypnotism and the action of drugs at a distance, 522.
- Hypnotized persons, handwriting of, 302.
- I., C. English sparrows, 35.
- Ice-storm, a recent, 190, 220, 242.
- Illinois, mounds of southern, 327; state board of health, 449.
- Illuminants, lighthouse, 332.
- India, fish and famine in, 125; progress in, 156; silver question in, 111; tax on salt in, 73.
- Indian cobra, venom of the, 88; grave, relics from an, *ill.* 34; languages, bibliography of, 358; snake-dance, *ill.* 507.
- Indiana academy of sciences, 68, 435, 480.
- Indians, composite portraits of American, *ill.* 408.
- Induction, 442.
- INGERSOLL, E. Fish and famine in India, 125; names of the Canadian Rocky Mountain peaks, 308; the English sparrow, 80; the Rocky Mountains as seen from the Canadian Pacific railway, 243.
- INGHAM, W. A. Aspects of the economic discussion, 572.
- Inoculation, yellow - fever, 90, 140, 428, 570.
- Insectivorous plants, 355.
- Insects, fossil, 414; egg-masses of, 525; occurrence of singular, in Washington, 369; power of vision of, 326; relation of birds and, as studied by the agricultural department, 111; sense of smell in, 272.
- Integrators, mechanical, 316.
- Intelligence of animals, 176.
- International congress for discussing papers upon climatology, 569; of hydrology, meeting of, 304; on technical instruction at Bordeaux, 414; copyright, 52, 111, 135, 140, 219, 327; geological congress at Berlin, 141; institute of statistics, 451; literary and artistic association, 525; maritime exhibition, 434; philomathic congress, programme of, 455.
- Iron conference at St. Petersburg, 109; new meteoric, from West Virginia, 11; ore, statistics concerning, 549.
- Irrigation, new system of, in Colorado, 307.
- Italian journal of zoology, new, 569.
- J., J. Dr. Hughlings-Jackson on epilepsy, 533; popular psychology, 106.
- Jackman, W. T., photographs of retina by, 458.
- JACKSON, R. T. A new museum pest, 481.
- JAMES, E. J. Silver problem, 266; the state as an economic factor, 485, 490.
- JAMES, W. Professor Newcomb's address before the American society for psychical research, 123.
- Jamson, J. F., on Usselin, 431.
- Japan, agricultural industries of, 463; Imperial university of, 457; intellectual movement in, 450; railway-bridges of, 51; Roman alphabet association of, 460.
- Japanese university, re-organization of, 504.
- JASTROW, J. Elementary science-teaching, 114; the evolution of language, 555.
- Jefferson, removals attributed to, 430.
- Jena university, legacy bequeathed to, 570.
- Jets, sympathetic vibrations of, *ill.* 494.
- Jevon's Letters and journal, reviewed, 577.
- Jewish ability, comparative distribution of, 247.
- Johns Hopkins university, anniversary of, 415; circulars, contents of March number of, 304; tenth annual report of, 24.
- Journal, new Assyrian, 351; scientific, in Berlin, 371; zoological, 327; new Italian, 509; of charities and correction, international, 306; of hygiene, 284.
- Journals in Portuguese provinces, list of, 165.
- Judiciary, American, 430.
- K., W. Equality in ability of the young of the human species, 36.
- Kamchatka, expedition to, 99.
- Kansas university science club, 480.
- KELLER, G. Double vision, 440.
- KELLOGG, L. O. Penetrating-power of arrows, 550.
- Keltie, J. S., on geographical education, 155.
- KENNAN, G. A trip to the Altai Mountains, *map*, 18.
- Ketteler's Theoretical optics, reviewed, 401.
- KIEPE, W. The Davenport tablets, *ill.* 439.
- Kilauea, 504.
- KING, F. H. Topographical models or relief-maps, 120.
- KINGSLEY, J. S. Cost of scientific books, 101.
- Kirtland's warbler, 413.
- Kittredge, G. L., on a singular custom among the Greeks, 237.
- Kleinpaul's Proper names, reviewed, 403.
- Knox, J. J., on legal tender in the United States, 284.
- Kobelt's Algeria and Tunis, reviewed, 260.
- KOCH, P. Montana climate, 167.
- Kogia breviceps, 413.
- Kongo, affluent of the, 160, 302; medical instruction for those going to the, 91; new map of the, 139; news from the, 51; report on the, 68.
- Krause's Explorations in Alaska, reviewed, 95.
- Kükenthal's Die mikroskopische technik im zoologischen praktikum, reviewed, 64.
- KUNZ, G. F. A new meteoric iron from West Virginia, 11; some remarkable gems, *ill.* 399.
- Labels, a convenient way of indicating localities upon, 352.
- Labor differences, settlement of, 339, 372.
- Laboratories, two new medical, for New York, 480.
- Laboratory at Annisquam, Seaside, 368; Chesapeake zoological, 456; of Fresenius, chemical, 370; physical, in modern education, 573.
- Ladd on the Yale curriculum, 103.
- Laflamme, Abbe, on the physical geography of the Saguenay, 239.
- Lake Mistassini, 459.
- Lake Moeris, restoration of, 160.
- Lake of Constance, 525.
- Lake Ontario, levels of, 412.
- Lake Superior, evidences of glacial action on the shores of, 145.
- Lakes of western New York, 273.
- Lanciani, R., on Roman archeology, 492.
- LANGERFELD, E. The competition of convict labor, 117, 143, 168.
- LANGLEY, S. P. The temperature of the moon, 8, 79.
- Langley, S. P., on the invisible spectrum, 385.
- Language, evolution of, 555.
- Languages, bibliography of Indian, 358; learning, 493.
- LANKESTER, R. Proposed English fishery board, 431.
- Langman's Farthest north, reviewed, 94.
- Laos, travels in, 96.
- Lapland, Russian, 233.
- LAPPARENT, A. de. Is the ocean surface depressed? 419.
- Latitude, change of, 567.
- LAUGHLIN, J. L. Silver problem, 268.
- Laughlin's Bimetallism, reviewed, 584.
- Laveran, malarial germ of, *ill.* 297.
- LECONTE, J. Double vision, 506; pharyngeal respiratory movements of adult amphibia under water, 462.
- LECONTE, John. Barometer exposure, 550.
- Lectures at universities, free, 384; Hibbert, for 1886, 436; juvenile, at the Royal institution, 54; Liverpool course of free, 54; on light, 338.
- LEE, L. A. A recent ice-storm, 242.
- Lee's Microtome's vade-mecum, reviewed, 65.
- LEETE, C. H. Demand for good maps, 31.
- Legal tender in the United States, 284.
- Legibility of letters of the alphabet, *ill.* 128.
- Leslie, B., on an improved method of lighting vessels under way, 177.
- LESLEY, J. P. Topographical models or relief-maps, 58.
- Lesseps, M. de, and the North African inland sea, 112.
- Letter, an open, 166.
- Leucomaines, 411.
- Levees of the lower Mississippi, preservation of, 339.
- Lewis, T. R., death of, 545.
- Librarians, report of the annual conference of, 98.
- Library of G. Dewalque, 525.
- Lick observatory, 49; large dome for, 567; trustees, purchase of crown disk by, 434.
- Light, penetrability of, 456.
- Lighthouse illuminants, 332.
- Lighting, new system of, 435; vessels under way, improved method of, 177.
- Lightning-conductor, ribbon form of, 185.
- Lime, caustic, used for gunpowder in collieries, 307.
- Lobsters, hatching, rearing, and transplanting, 517.
- Lockhardt, Colonel, mission of, 568.
- Lockwood, Lieutenant, merits of explorations of, 139.
- Lockwood, S. Appropos to Pteranodon and Homo, 242.
- LOCKYER, J. N. The data now requisite in solar inquiries, 386.
- Locomotives fired with petroleum, 448.
- Locusts, dried, 416.
- London, population of, 173; Royal society of, 477.
- Longevity, 109; in Salem, 503.
- Loomis, A. L., on cardiac diseases, 454.
- Loomis, E., on areas of high barometric pressure over Europe and Asia, 369.
- Louisiana purchase, 430.
- Luibock's Flowers, fruits, and leaves, 549.
- Lunatics, Gheel colony of, 410.
- Lynx, means of distinguishing Canada lynx from Bay, 396.
- LYON, D. G. Arsenic in wall-paper, 392.
- M. Explosions in coal-mines, 346.
- M., T. C. Sir William Thomson to the coefficients, 9.
- Macgowan on a supposed ancient phonograph, 348.
- Macgowan, D. J., on earthquakes, 348.
- Mackerel, winter habitat of, 263.
- Magazines, science articles in, 29.
- Magnetism, earth, 569.
- Malarial germ of Laveran, *ill.* 297.
- Malay peninsula, Sakeis of, 48.
- Malpais in Michoacan, Mexico, 49.
- Manganese ores in the United States, 415.
- Manitoba, exploration of mounds in, 186.

- Mammoths in the Lena Delta, search for, 367.  
 Manual training, 492.  
 Maori poetry, 330.  
 Map, archeological, 350; of Asia, ethnographic, 368; of France, new geological, 74; of New Jersey, topographical, 283; of New York harbor, 434; of Russian Turkestan, geological, 284; of the Kongo, new, 139; of the White Mountains, 546; of United States as an aid to teachers, outline, 317; detailed, 306.  
 Maps at the geographical exposition, relief, 162; demand for good, 31, 79; missionary, 160; of United States, topographical, 425; plans, and charts in the British museum, catalogue of, 6; topographical models or relief, 23, 58, 120, 418.  
 MARCOU, J. On two plates of stratigraphical sections of the Taconic ranges, by Prof. James Hall, 393.  
 MARCY, O. Penetrating-power of arrows, 528.  
 Marine biological association, government aid to the, 53.  
 Mark, E. L., appointment of, to Hersey professorship at Harvard, 98.  
 MARK, E. L. Text-books on methods in microscopic anatomy, 100.  
 MARKS, W. D. Electric railways, 318.  
 Marriage, primitive, 147.  
 Marsupials, 546.  
 Marvels of animal life, 220.  
 Mason, E. G., on the march of the Spaniards across Illinois, 430.  
 MASON, O. T. Congenital deaf-mutism, 14; penetrating-power of arrows, 328.  
 Massachusetts agricultural experiment-station, third annual report of, 349; inland fisheries, 89; topographical survey, 49, 235, 503.  
 MAYER, A. M. Diathermancy of ebonite, 462.  
 Mayer, A. M., on the diathermancy of ebonite, 386.  
 Mechanics of materials, key to textbook on, 327.  
 Medals, annual award of, at the St. Petersburg geographical society, 162; awarded by signal service, 416; of National academy of sciences, 385; of Paris geographical society, 367.  
 Medical education at Oxford, 322; movement in St. Petersburg for female, 162; instruction for those going to the Kongo, 91; laboratories, two new, for New York, 480; school at Tokio, 457; schools, improvement of, 449; students in Boston, female, 456.  
 Medicine, additions to the Paris faculty of, 303; state recognition of veterinary, in New York, 559.  
 Mediums, Mrs. Sidgwick and the, 554.  
 Meetings, want of free discussion at scientific, 23.  
 Memory, remarkable powers of, in the humble-bee, 331.  
 Menault's Intelligence of animals, reviewed, 176.  
 MENDELIEFF, K. An Indian snake-dance, *ill.* 507.  
 Mercurial vapor, absorption of, by soils, 462.  
 Merriam, A. C., election of, as director of the American school at Athens, 237.  
 MERRIAM, C. H. Preliminary description of a new species of *Apodonta*, 219; preliminary description of a new squirrel from Minnesota, 351.  
 Merriam, J. M., on removals attributed to Jefferson, 430.  
 Merriman's Key to text-book on the mechanics of materials, 327.  
 Mersey and Severn, tunnels under the, completed, 139.  
 Merv oasis, making a new, 132.  
 Mesmerism, 415.  
 Meteoric iron from West Virginia, 11.  
 Meteorites, catalogue of collection of, 132.  
 Meteorological conference, 210; observatory, observations made at the Blue Hill, 306.  
 Metric system in government departments, 239.  
 Mexican antiquities, trade in spurious, 264.  
 Mexico, dangerous mosquito in the city of, 46; health-resorts of, 454.  
 Meyer, Dr. O., and the south-western tertiary, 11.  
 Meynert's Psychiatry, reviewed, 359.  
 Microscopic anatomy, text-books on methods in, 100; objectives, 274, 413; slide containing Lord's Prayer, 164.  
 Milk, scarlet-fever and infected, 544.  
 Mineral waters, 454.  
 Minerals, rock-forming, 294.  
 Mineralogical collection, most remarkable private, 186.  
 Mines, accidents in, 459; marsh-gas in, 459.  
 MINOT, C. S. Text-books on methods in microscopic anatomy, 100; the Rotifera, 402.  
 Mint, report of deputy-master of the British, 545.  
 Mississippi, preservation of levees of the lower, 339.  
 Missouri rivers, stocking of, with California trout, 133.  
 MITSUKURI, K. The intellectual movement in Japan, 450.  
 Money, waste of public, 9.  
 Mongolia, explorations in, by Prejevalsky, 157.  
 Montana climate, 167.  
 Moon, atmosphere of the, 31, 124; temperature of the, 32, 79, 122.  
 Moquis, dance of, 349.  
 MORGAN, A. International copyright, 219.  
 Morris's Catalogue of British fossils, 390.  
 MORSE, F. W. Phylloxera, 417.  
 Morse's Japanese homes and their surroundings, reviewed, 42.  
 Mosquito, dangerous, in the city of Mexico, 46.  
 Moths, scent-organs in some bombycid, 505.  
 Mott, V., hydrophobia treatment by, with Pasteur virus, 457.  
 Mounds in Manitoba, exploration of, 186; of southern Illinois, 327.  
 Mount Etua in a state of eruption, 237.  
 Mount Washington, winter on, 40.  
 Mountain heights, accurate, 423.  
 Mouse-plague of Brazil, 126.  
 Mowry, W. A., on the Louisiana purchase, 430.  
 Mud-minnow, 349.  
 Muir's Thermal chemistry, reviewed, 314.  
 Municipal government in Massachusetts, 430.  
 Murray's New English dictionary, reviewed, 557.  
 Muscles, certain homologous, 396.  
 Museum, military and naval, in Washington, 415; of art, metropolitan, to be free to public on Sundays, 434; of natural history, American, to be free to public on Sundays, 434; Peabody, Abbott collection at, 4; pest, new, 481; Vienna natural history, annals of, 304.  
 Museums in Russia, public, 492; needs and shortcomings of anatomical, 339.  
 Mussels, poisonous, 175, 413.  
 Musser, J. H., on phthisis among mill-hands, 454.  
 Myers on the unconscious self, 415.  
 Mytilotoxin, 413.  
 N., H. Science at Cornell, 352.  
 N., W. S. Certain questions relating to national endowment of research in this country, and their importance, 307.  
 Names and things, 406; proper, 403.  
 Naphtha, 435.  
 Naples, appropriation for zoological institution at, 139.  
 National academy of sciences, 208, 284, 369, 384, 391; annual report of, 140; reports of, 236.  
 Nature, short studies from, 6.  
 Naturwissenschaftliche Rundschau, 213.  
 Nebraska, quaternary volcanic deposits in, 373.  
 Nebula, new, in the Pleiades, 368.  
 Nectar-secreting plant-lice, 102.  
 Nerves, 459.  
 NEWBERRY, J. S. Equatorial currents in star and planetary atmospheres, 13.  
 Newberry, J. S., on a singular habit in the cicada, 239.  
 NEWCOMB, S. Aspects of the economic discussion, 538; popular astronomy, 392; Professor Newcomb's address before the American society for psychological research, 145; silver problem, 265.  
 Newcomb, Professor, address of, before the American society for psychological research, 89, 123, 145.  
 New Hampshire the state of earthquakes, 559.  
 Newton, H. A., on the comet of Biela, 369.  
 New York, health of, during May, *ill.* 564; state recognition of veterinary medicine in, 559.  
 NOPAL. The anachronisms of pictures, 307.  
 North Sea, currents of, 22.  
 Numismatic and antiquarian society of Philadelphia, 350.  
 Nyassa, 416.  
 Oasis, making a new Merv, 132.  
 Obelisk, decay of, 24, 75, 93.  
 Observatory, Washburn, fourth volume of the publications of the, 580.  
 Occupations of the British people, 552.  
 Ocean surface, 302, 419, 421, 570.  
 Oceana, 292.  
 Ocean-currents, sea-level and, 75, 102, 146, 187.  
 Ogle, W., on suicides in England and Wales, 229.  
 Ohio, petroleum and natural gas as found in, *map*, 560.  
 Oil, a new, 368; and gas wells of Pennsylvania, 251; on troubled waters, 46, 77, 101, 133, 167, 214, 325, 346.  
 Oil-spring, submarine, 304.  
 Oil-wells of Baku, 149.  
 Ojibwa and Dakota practices, 526.  
 Old-fashioned book, an, 249.  
 Olive-oil, production of, 570.  
 Opium, duty on, 385; habit, 23.  
 Oppolzer's Treatise on orbits, reviewed, 880.  
 Optical illusion, 458.  
 Optics, theoretical, 401.  
 Orbits, treatise on, 580.  
 Ornithological nomenclature, instability of, 296.  
 ORTON, E. Petroleum and natural gas as found in Ohio, *map*, 560.  
 Oxford, modernizing of, 31.  
 Oyster-culture, a sponge destructive to, 238.  
 P., H. W. A tornado brood in Hampshire county, Mass., 220; festoon clouds of a tornado, 124.  
 P., V. Recent psychical researches, 91.  
 Palat, Lieutenant, assassination of, 409.  
 Paleobotany, 263.  
 Paleontology, collections of invertebrate, 163.  
 Palestine, geology of Arabia and, 535.  
 PALMER, Mary T. A trap-door spider at work, 240.  
 Panama canal, 214, *map* 279; dredging-machinery for, 460.  
 Papyrus from Egyptian excavation, 284.  
 Parasitism among marine animals, 17.  
 Paris academy of medicine, dispute in, over Pasteur's work, 521; of sciences, election of Vulpian as permanent secretary of, 410; an ancient burial-place

- near, 74; geographical society, medals of, 367; new scientific society in, 132.
- PARKER, H. W. A tornado brood in Hampshire county, Mass., 118.
- Pasteur, 323; and hydrophobia, 213, 282, 296, 303, 413; commissions to investigate claims of, 423; deaths of Russian patients of, 409; dispute in Paris academy of medicine over work of, 521; ovation to, 521; Stanley club dinner to, 411.
- Patagonia, partition of, 409, 440.
- Patten's Political economy, reviewed, 446.
- Paul, C. K., on mesmerism, 415.
- PAUL, H. M. Close approach of Saturn and  $\mu$  Geminorum, *ill.* 28.
- Peabody museum, Abbott collection at, 4.
- Peach, C. W., death of, 323.
- PEALE, A. C. Method of stating results of water-analyses, 211.
- Peary, R. E., on an expedition to Greenland, 385.
- Pedagogy, history of, 469.
- Peirce, C. S., criticism of, in connection with the coast survey, 325.
- Pennsylvania boroughs, 435; oil and gas wells of, 251.
- Pepper, W., on phthisis, 453.
- Perak, explorations in, 97.
- Periodicals, 456.
- Persian desert, discovery of lake in, 117.
- Personality, multiple, 397.
- Peruvians, deformities of bones among the ancient, 130.
- Petrified flesh, 406.
- Petroleum and natural gas, 163; as found in Ohio, *map*, 569; in California, 525; locomotives fired with, 448.
- Petroleum-wells near the Red Sea, 370.
- Philadelphia academy of natural sciences, excursion of geological class of, 568; growth and needs of, 24.
- PHILBRICK, E. S. A recent ice-storm, 220.
- Philology and archeology, handbook of classical, 304.
- Philomathical society of Bordeaux, 416.
- Philosophical questions of the day, 426.
- Philosophy, first lessons in, 5; in American colleges, 353; study of, in Austrian gymnasias, 229.
- Phonograph, a supposed Chinese, 348.
- Photograph of the solar spectrum, 117.
- Photographic study of stellar spectra, 278.
- Photographs, exhibition of scientific, 319; of retina, 458.
- Photography, instantaneous, applied to the study of the heart and intestines, 264; new English monthly magazine devoted to, 568; use of composite, for the detection of forged signatures, 67.
- Phthisis, 453; among mill-hands, 454.
- Phylloxera, 307, 417; commission, French, 282; in California, 370; in Cape Colony, 230.
- Physiological investigation, electricity employed in, 390; senses for heat and cold, different, 151.
- Physiology, Cartwright lectures on, 320.
- PICKERING, E. C. Accurate mountain heights, 423; photographic study of stellar spectra, 278.
- Pictures, anachronisms of, 264, 307.
- Pilcomayo expedition to Bolivia, 234.
- Pilling's Bibliography of the languages of the North American Indians, reviewed, 358.
- Pilot chart of the North Atlantic, 163.
- Planet, discovery of, by Palisa, 347.
- Plant-lice, nectar-secreting, 102.
- Plants, cross fertilization of, by birds, *ill.* 441; insectivorous, 355.
- Platt, I. H., on pneumatic differentiation, 454.
- Playfair, Sir Lyon, appointment of, as minister of education, 184.
- PLYMPTON, G. W. Flooding the Sahara, *maps*, 542.
- Pneumatic differentiation, 454.
- Poetry, Maori, 330.
- Poison rings, 418.
- Poisonous mussels, 175, 413.
- Poisons in the living body, 303.
- Polar expedition, 213, 326.
- Poliakoff's Journey in Sakhalin, reviewed, 234.
- Political and social science at Yale, 546; economy, 446; change in the tenets of, with time, 375; science quarterly, 178; sciences, 178.
- Pond-lily seeds, germination of, 395.
- Pope campaign, 431.
- Population, Dutch statistics of, 367; of British India, 457; of London, 173.
- Portuguese provinces, list of journals in, 165.
- Potato, centennial of introduction of, into France, 521.
- Potomac, salmon in the, 415.
- Pourtales, grave of, 503.
- Powell's Fourth annual report of U. S. geological survey, reviewed, 158.
- Preece, W. H., on domestic electric lighting, 323.
- Prejevalsky, N. M., explorations of, in Mongolia, 157; reception to, and results of his explorations, 261.
- Pressensé's Study of origins, 436.
- Prize, Bressa, 525; for a botanical monograph, 6; of M. A. P. Candolle, 6; of Royal academy of medicine of Belgium, 570; of the king of the Belgians, 404.
- Prizes in Sweden, 371; of the French academy, 50; Warner, for essays on the brilliant sunsets of 1883-84, 274.
- Psychiatry, 359.
- Psychical research, attack on the theological report of the English society for, 156; journal of, 139; Professor Newcomb's address before the American society for, 89, 123, 145; report of Mr. Hodgson to the society of, 306; researches, recent, 91.
- Psychology in Encyclopaedia Britannica, 514; modern, 25; popular, 106.
- Pteranodon and Homo, apropos to, 242.
- Ptomaines, 411.
- Pulmonary vesicles, 410.
- PUTNAM, C. E. The Davenport tablets, 119, *ill.* 437.
- Qualtrough's Boat-sailer's manual, 350.
- Quinine, 371.
- R., F. An early prediction of the decay of the obelisk, 75.
- Rabaud, Alfred, death of, 416.
- Race and language, 399.
- Races and types, origin of human, 245; of Britain, reviewed, 84.
- Rae's Country banker, 350; reviewed, 425.
- Railroad in central Africa, 67; to Merv, Bokhara and Samarkand, 47; transportation, 258.
- Railway contracts, 208; the proposed Hudson Bay, 98; to central Asia, 277.
- Railway-bridges of Japan, the, 51.
- Railways and the republic, 579; electric, 318; imperfect information in regard to Russian, 46.
- Rainfall in New England, distribution of, Feb. 10-14, 1886, *ill.* 254; in New South Wales, variability of, 295; in South Africa, *map*, 151.
- Ranke, death of, 493.
- Rat-plague in New York, 412.
- Redard's Disinfection of cattle-cars, reviewed, 316.
- Reformatory at Elmira, 207.
- Religion in colleges, 133.
- Religious instruction at Harvard, moral and, 427; liberty in Virginia, 430.
- Remsen's Introduction to the study of chemistry, reviewed, 468.
- Reports, delay in printing scientific, 416.
- Research, national endowment of, 284, 307, 374.
- Respiration, combined aerial and aquatic, 394.
- Respiratory movements of amphibia, 395.
- Retina, photographs of, 458.
- Reyer, E., publication by, of profiles through the Sierra Nevada, 414.
- Rhine and Rhone rivers, channels of, 547.
- Rhodes, C., on lake-levels, 412.
- Rice, C. C., on mineral waters, 454.
- Richards's Food-materials, reviewed, 154.
- Richter's Inorganic chemistry, reviewed, 261.
- RIDGWAY, R. Is the dodo an extinct bird? 190.
- RILEY, C. V. A carnivorous butterfly larva, 394.
- Rings, poison, 418.
- River-bars, formation of, 30.
- Rivers, underground, 329.
- Rochefontaine, M., death of, apropos of cholera, 303.
- Rocks, sedimentary, 416.
- Rocky Mountain peaks, names of the Canadian, 308, 330, 351; as seen from the Canadian Pacific railway, 243.
- Roscoe, H., proposed president of British association, 349.
- Roscoe's Spectrum analysis, reviewed, 261.
- Rose of Sharon, what was the, 439.
- Rothwell on submarine tunnelling, 93.
- Rotifera, 402.
- ROWLAND, H. A. The physical laboratory in modern education, 573.
- ROYCE, J. Abbot's Scientific theism, 335; philosophical questions of the day, 426.
- Ruminants of the Copper River region, Alaska, 57.
- RUSSELL, I. C. Soda and potash in the far west, 61.
- Russell's Recent glaciers of the United States, 264.
- Russia, death-rate and sanitation in, 314; Turkomans in, 409; under the tzars, 56.
- RYDER, J. A. Hatching, rearing, and transporting lobsters, 517; success in hatching the eggs of the cod, *ill.* 26.
- Ryder, J. A., observations of, on the mud-minnow, 349.
- S. Recent changes in Cornell university, 4.
- S., C. A. Sea-level and ocean-currents, 102.
- S., L. A national university, 12.
- S., M. A. Diseases of the fore-brain, 359; physical expression, 43.
- S., O. T. Spectrum of comet c. 1886, 528.
- S., W. H. Is the ocean surface depressed? 570.
- Sadler. See Clark and Sadler.
- Sagenay, physical geography of the, 239.
- Sahara, flooding the, *maps*, 542.
- Sailing-boats, 350.
- Sakeis of Malay peninsula, 48.
- Sakhalin, journey of Poliakov in, 234.
- Salem, longevity in, 503.
- Salmon in the Potomac, 415.
- Salt, tax on, in India, 73.
- Salt-storm, an old-time, 440.
- Sandras on the human voice, 411.
- Saturn and  $\mu$  Geminorum, close approach of, *ill.* 28.
- Saurathera bahamensis, 536.
- Saussure, de, monument to, 119.
- Scarlet-fever and infected milk, 544.
- Scent-organs in some bomycid moths, 505.
- Schilling, N. H., on electric lighting, 351.
- Schizopoda, 249.
- Schliemann's Prehistoric palace of the kings of Tiryns, reviewed, 37.
- Scholarships, 263.
- Schools of Monteagle, Tenn., series of summer, 326; reforms in English public, 44; science in English public, 31; total-abstinence teaching in the, 115.
- SCHOTT, C. A. Did Dr. Hayes reach



- Cape Lieber in his arctic exploration of 1861? 165.
- SCHWATKA, F. Eskimo building-snow, *ill.* 54.
- Schwatka's Along Alaska's great river, 308; reviewed, 294.
- Science and Lord Bacon, 143; and the state, 155; loss of valuable workers to government, 52.
- Scorpion, Professor Thorell and the American Silurian, 216.
- Scott, A., on the American judiciary, 430.
- Scott, E. B., on the lower St. Lawrence, 430.
- SCOTT, W. B. Some points in the evolution of the horses, *ill.* 13.
- Scott-White's Chemical tables, reviewed, 176.
- SCUDDER, H. E. The extension of copyright, 134.
- Scudder, S. H., on the cockroach, 369, 386.
- Scudder's Fossil insects, 414; New England butterflies, 351.
- Sea-level and ocean-currents, 75, 102, 146, 187.
- Seals, habits of Newfoundland, 66.
- SEAMAN, W. H. Method of stating results of water-analyses, 214.
- Seas, large, near Cape Hatteras, 325.
- Sea-serpents, belief in, 523.
- Seaweed, paper made of, 435.
- Sée, M., on the surface of pulmonary vesicles, 410.
- Seeds, distribution of, by the agricultural bureau, 7.
- SELIGMAN, E. R. A. Change in the tenets of political economy with time, 375.
- SENNETT, G. B. Destruction of the eggs of birds for food, 199.
- Sewage, disposal of London, 349.
- Sewerage and health, 335; of Liverpool, 456.
- Shad, 434, 436, 456, 525.
- Shakespeare, 66.
- SHALER, N. S. The swamps of the United States, 232.
- Shark, strange form of, 347.
- Shaw's Mechanical integrators, reviewed, 316.
- Shepard, C. U., collection of, and Amherst college, 547; death of, 504.
- SHERWOOD, T. W. Eskimo building-snow, 372.
- Ships, glass as a sheathing for, 7.
- SHUFELDT, R. W. A national zoological garden, 505; a scientific corps for the army and navy, 142; certain questions relating to national endowment of research, 284, 374; evolution and the faith, 483; is the dodo an extinct bird? 145, 242; the distinction between anatomy and comparative anatomy, 328; the English sparrow, 14.
- Shufeldt, R. W., on science and the state, 155.
- Siberia, levelling of, *ill.* 105; the coldest place, 457.
- Sidgwick, Mrs., and the mediums, 554.
- Siemens, W., gift of, to the German government for natural science institute, 435.
- Sierra Nevada, profiles through, 414.
- Sig. Corrections of thermometers for pressure, 168.
- Signal stations, necessity of foreign, 325.
- Signalling diagrams, a method of, *ill.* 357; methods of military, 52.
- Signatures, use of composite photography for the detection of forged, 67.
- Silk-culture in the United States, 369.
- Silver problem, 265, 266, 268, 286; in India, 111.
- Silver-mines of the west, the great, 333.
- Skeleton, a human, prepared in 1543, 74.
- Slavery in Madagascar, 72.
- SLEVIN, T. E. Yankee, 32.
- Slung-shot, 214.
- Small-pox, cost of, to Tennessee, 237.
- Smell, sense of, in man, 547.
- Smith college, new science hall at, 435; dedication of, 547.
- SMITH, J. B. Scent organs in some bombycid moths, 505.
- Smith, J. Lawrence, memorial tablet to, 524.
- SMITH, S. I. Challenger report on the Schizopoda, 249.
- Smith, S. I., on decapod crustaceans, 338.
- Smithsonian and national museum reports, 100; report for 1884, 371; works in press, 214.
- Snake-dance, an Indian, 349, *ill.* 507.
- Snow, Eskimo building, *ill.* 54, 372, 396.
- Societies, meetings of scientific, 522.
- Soda and potash in the far west, 61.
- Solar inquiries, data now requisite in, 386; spectrum, Professor Rowland's photograph of the, 117.
- SOLBERG, T. International copyright, 327.
- Somnambulism, induced, 309.
- Sound and color, association of, 146.
- Soundings in the Atlantic, deep-sea, *ill.* 387; in the South Pacific, *ill.* 232.
- South America, explorations in central, 160; new chart of, 409.
- South American investigations, 96.
- Spain, cholera in, 68, 230.
- Spaniards, march of, across Illinois, 430.
- Sparrow, the English, 14, 35, 80.
- Spectra, photographic study of stellar, 278.
- Spectrum analysis, 261; invisible, 385; of comet c. 1886, 528; photograph of the solar, 117.
- Spelling of foreign and ancient names, 406.
- Sperm-whale, pygmy, 413.
- Sphinx, disinterment of the, 214.
- Spider, a trap-door, at work, 240.
- Sponge spicules in pond-soils, discomforts arising from, 218.
- Squirrel, description of a new, from Minnesota, 351.
- Stanley club dinner to Pasteur, 411.
- Star and planetary atmospheres, equatorial currents in, 13.
- Star-guide, 470.
- State, the, as an economic factor, 485.
- Steam-engines, valve-gearing of, 304.
- St. Elmo's fire, 117.
- Stepniak's Russia under the tzars, 56.
- STERNBERG, G. M. The malarial germ of Laveran, *ill.* 297.
- STEVENS, W. LeC. Double vision, 461.
- St. Lawrence, lower, 430.
- Stöckhardt, Dr. Julius, death of, 568.
- Stokes's Lectures on light, reviewed, 338.
- Stoll's Guatemala, 550.
- Stomach, observations upon digestion in the human, 290; surgical operations upon the, 74.
- STONE, G. H. Chinook winds, 242.
- Stone, W. H., on the electrical conditions of the human body, 390.
- St. Petersburg, electrical exhibition at, 117.
- STURTEVANT, E. L. The claimed wheat and rye hybrid, 56.
- Suicides in England and Wales, 239.
- SUKSDORF, C. L. The Davenport tablets, *ill.* 439.
- SUMNER, W. G. How far have modern improvements in production and transportation changed the principle that men should be left free to make their own bargains? 225.
- Sunsets, Warner prizes for essays on the brilliant, of 1883-84, 274.
- Surgical operations upon the stomach, 74.
- Survey, geological, in Brazil, 523; and natural history, of Canada, 459; topographical, of Massachusetts, 49, 235, 503.
- Surveys, government, 257, 363, 427.
- Suspension of scientific activity in Washington during the holidays, 51.
- Swamps of the United States, 232.
- Swindler abroad again, 286, 308, 418.
- SYMONDS, W. S. Is the dodo an extinct bird? 264.
- Sympathetic vibrations of jets, *ill.* 494.
- T. C. W. What was the rose of Sharon? 439.
- T. D. P. Large *versus* small telescopes, 131.
- Taconic controversy in a nutshell, 34, 78; ranges, stratigraphical sections of, 393.
- Tadpoles in winter, 119, 146, 168.
- Tanganyika, 416.
- Tariff of 1828, 430.
- TARR, R. S. Parasitism among marine animals, 17.
- Task for anatomists, 428.
- Tasmania, 523.
- TAUSSIG, F. W. Railroad transportation, 258; the country banker, 425; the state as an economic factor, 488.
- Taussig, F. W., on the tariff of 1828, 430.
- Tax commission, report of the Baltimore, 45; on salt in India, 73.
- TAYLOR, F. M. Some devices for teaching historical geography, 525.
- Taylor, T., on butter tests, 524.
- Teaching, elementary science, 114.
- Tea-farms, government, 237.
- Tea-poisoning, 349.
- Telegraphing from a moving train, 116.
- Telephone, use of, in Europe, 479.
- Telescopes, large *versus* small, 131.
- Temperature of Munich, 164; of the moon, 8, 32, 79, 122; of water of Golden Gate, 238.
- Temperatures in England, low, 281.
- Ten Kate, Dr., investigations of, in Guiana, 233.
- Theism, scientific, 335.
- Theosophical report of English society for psychical research, attack on, 156.
- THEOSOPHIST, a. A most extraordinary structure, 572.
- Theosophists, collapse of the, 81, 102.
- Thermometer exposure, 439.
- Thermometers, correction of, for pressure, 144, 168, 190.
- THOMAS, C. The Davenport tablets, 10, 189.
- THOMPSON, G. Eskimo building-snow, 396.
- THOMSON, W. Sir William Thomson to the coefficients, 9.
- THORNE, C. E. New York agricultural experiment-station, 371; the agricultural experiment-station of New Jersey, 528.
- Thunder-squall in New England, *ill.* 436.
- Thurston's Materials of construction, reviewed 95.
- Tidal observations in Canada, 1.
- TILLMAN, S. E. Cliff-picture in Colorado, *ill.* 80.
- Time, adoption of standard, by Canadian Pacific railway, 93; world, 323, 373, 385.
- Tiryns, prehistoric palace of the kings of, 37.
- TODD, D. P. The coast and geodetic survey, 2.
- Todd, J. E. Quaternary volcanic deposits in Nebraska, 373.
- Topographical knowledge in battles and campaigns, 431.
- Tornado brood in Hampshire county, Mass., 118, 220; festoon clouds of a, 124.
- Tornadoes and their prediction, 361.
- TORREY, B. Association of sound and color, 146.
- Total-abstinence teaching in the schools, 115.
- Touch, sense of, and the teaching of the blind, 271.
- Tourette, G., observations of, on gait in walking, 548.
- Town boundary-lines, 236.
- TOY, C. H. A new English dictionary, 557.
- Tracheotomy, disuse of, in diphtheria, 492.



- Trade outlet on the the Black Sea, proposed, 424.  
 Trade-route between Bolivia and the Argentine Republic, 299.  
 Trade-routes, Siberian, 408.  
 Trephining of an Inca skull, 186.  
 Tripos examination, 234.  
 Trout, stocking of Missouri rivers with California, 133.  
 TRUE, F. A means of distinguishing the Canada lynx from the Bay lynx, 396.  
 TRUE, F. W. A task for anatomists, 428.  
 Trutat's La photographie, reviewed, 176.  
 Tschudi, J. J. v., obituary notice of, 316.  
 Tuning-forks, method of determining the rate of standard, 74.  
 Tunnelling, submarine, 93.  
 Tunnels under the Mersey and Severn completed, 139.  
 Turin, Royal academy of sciences, 525.  
 Turkestan, geological map of Russia, 284.  
 Turkomans in Russia, 409.  
 Tyler, M. C., on the neglect and destruction of historical materials, 430.  
 Tyndall fund, 163; scholarship, 186.  
 Typhoid-fever, deaths from, 568; in Brooklyn, 45.  
 Tyrotoxicon, 238.  
 Uape Indians of the Amazon, 301.  
 Ulna and radius of the human arm, movements of the, 326.  
 Unconscious self, the, 415.  
 Underground rivers, 329.  
 U. S. coast and geodetic survey, 1, 2, 236, 415, 434, 435, 436, 456, 480; assignments to duty in, 524; changes in, 548, 569; charts of, 524, 569; work of, 436, 457, 504, 505, 524; and the navy, 407; fish commission, 307, 325, 434, 456, 560; geological survey, 140, 276, 284, 383, 405, 504; fourth annual report of, reviewed, 158; list of publications of, 569; work of the chemical division of, 99; museum of hygiene, 186; national museum, 347; accessions to, 93; bulletin No. 28, 100; No. 30, 99; No. 31, 103; handbook to the, reviewed, 154; herbarium of, 187; lectures at, 239; naval observatory, 73, 231, 385; change in the head of, 481; patchwork report from, 273; report of the national academy on, 178; signal service, medals awarded by, 416; reports of, 186.  
 Universities, free lectures at, 384; German, 110.  
 University, a national, 12, 52, 121; Cornell as a, 339; founding of a Hebrew, in New York City, 237; growth of St. Petersburg, 262; Jena, legacy bequeathed to, 570; of London, 479; changes at the, 138; study of engineering at, 235; teaching, for London, 80; of New York, convocation of, 479; science club, Kansas, 480.  
 UPRON, W. The distribution of rainfall in New England, Feb. 10-14, 1886, *ill.* 254.  
 Urine, toxicity of, 410, 547.  
 Ussellinx, 431.  
 V. Paris letter, 212, 302, 409, 521.  
 Vaccine from revaccinated children, inefficacy of, 74.  
 Vaseline, experiments with, 306.  
 VENABLE, F. P. Correction of thermometers for pressure, 144, 190.  
 Vertebrates, 351.  
 Vessels, a novel method of lighting, under way, 177; at sea, electrical communication between, 52.  
 Veterinary medicine in New York, state recognition of, 559.  
 Vibrations of jets, sympathetic, *ill.* 494.  
 Vine, diseases of the, 569.  
 Vines, efficacy of sulphate of copper in destruction of mildew of, 164.  
 Vintage, date of, *ill.* 60.  
 Virchow on acclimatization, 169; on mussels, 413.  
 VIRDEN, S. T. Discomforts arising from sponge spicules in pond-soils, 218.  
 Virginia, early history of, 430.  
 Vision, double, 440, 461, 506.  
 Visual illusion, a, 548.  
 VITA, A. S. An open letter, 166.  
 Vivisection inspectors, report of, 479.  
 Voice, the human, 411.  
 Volcanic deposits in Nebraska, quaternary, 373; eruption in Central America, 116.  
 Volcano in the Pacific, new, 69.  
 Vulpian, election of, as secretary of Academy of sciences, 410; resignation of, 212.  
 W. London letter, 30, 53, 138, 184, 234, 231, 322, 389, 477, 544.  
 W., A. Science at Cornell, 416.  
 W., N. The causation of pulmonary consumption, 86.  
 Waitz, George, death of, 504.  
 Walking, gait in, 548.  
 Wallace, A. R., early visit of, to this country, 164, 389.  
 Wall-paper, arsenic in, 236, 371, 392.  
 Walther, J., on the chalk-secreting algae of the Mediterranean, 575.  
 Ward's Paleobotany, 263.  
 Warner prizes for essays on the brilliant sunsets of 1883-84, 274.  
 Warner's Physical expression, reviewed, 43.  
 Washington, attack on, in 1814, 480; philosophical society, growth of, 7; proposed permanent exposition in, 186; suspension of scientific activity in, during the holidays, 51.  
 Water-analyses, method of stating results of, 211.  
 WATERS, G. F. Oil on troubled waters, 167; the germination of pond-lily seeds, 395.  
 Waters in the north-western lakes, rise and fall of, 317; purification of natural, 132.  
 Water-supply of London, 281.  
 Wa-Wah, 548.  
 WEAD, C. K. Errata, 484; oil on troubled waters, 214.  
 Weather, a popular text-book of the, 305; at the south, cold, 90; coldest winter yet known, 162; in England, 323, 478, 545; journal, 264.  
 Weber, H. A., on butter tests, 524.  
 Webster, J. D. See Jackman, W. T.  
 Wellington, A. M., on journal friction, 93.  
 West, great silver-mines of the, 333.  
 Wheat and rye hybrid, the claimed, 56, 190.  
 Wheat-crops, waste in, 174.  
 WHITE, C. H. Method of stating results of water-analyses, 211.  
 WHITE, I. C. A swindler abroad again, 418.  
 WHITFIELD, R. P. Professor Thorell and the American Silurian scorpion, 216.  
 Whitman's Methods of research in microscopical anatomy and embryology, reviewed, 64.  
 Williams's Chemistry of cookery, reviewed, 66.  
 WILSON, C. M. Stepniak's Russia under the tsars, 56.  
 Wilson, J. G., on Columbus, 429.  
 Wilson's Drainage for health, reviewed, 316.  
 WINCHELL, N. H. The Taconic controversy in a nutshell, 34.  
 Winter on Mount Washington, 40.  
 WOJIKOF, A. The levelling of Siberia, *ill.* 105.  
 Wöhler, Friedrich, memorial to, 283.  
 WOODHULL, A. A. Cliff-picture in Colorado, 141.  
 Wood's Holl, cod-hatching at, 99.  
 Wood's Nature's teaching, reviewed, 154.  
 WOODWARD, R. S. Is the ocean surface depressed? 570.  
 Wool, classification of, for tariff purposes, 385.  
 Workmen, valuable method of seeking for buried, 410.  
 Wortman, J. H., on vertebrates, 351.  
 Wreck floating in the Atlantic, 50.  
 Wrecks, 325.  
 Wyse's Panama canal, reviewed, *map*, 279.  
 Y. Boston letter, 235, 503.  
 Y., E. The eight-hour day, 59.  
 Yale college, political and social science at, 546; curriculum, Professor Ladd on the, 103; new president of, 471.  
 Yankee, 32.  
 Yarrow, H. C., on the snake-dance of the Moquis, 349.  
 Yellow-fever inoculation, 140, 428, 570; commission for testing the value of, 90; investigation of 504.  
 Young, C. A. Popular astronomy, 392.  
 Z. Washington letter, 7, 51.  
 Zealandia, 457.  
 Zeller, E., proposed fund in honor of, 547.  
 Zodiacal light, 73.  
 Zoölogical garden, a national, 505; at Cincinnati, financial difficulty of, 90; refusal of grant of land for, 325; journal, new, 327; society in Washington, 186; stations, prosperity of French, 523.  
 Zoölogy, new Italian journal of, 569; summer course in, at Cornell, 415.  
 Zuni maiden, Wa-Wah, 548.

## LIST OF ILLUSTRATIONS.

	PAGE		PAGE
Africa, map of, showing the relative size of the proposed inland seas	544	Saturn and $\mu$ Geminorum, close approach of	28
Algeria, proposed inland sea in	543	Siberian levelling, results of	106
Alphabet, legibility of letters of the	129	Signalling diagrams, method of	357
Altai Mountains, map of western Siberia, showing	19	Snake-dance, an Indian (3 figs.)	510, 511
Arctic regions, showing location of circumpolar stations, 1881-83	183	Snow on a Mount Washington telegraph-pole	54
Atlantic, deep-sea soundings in the (2 figs.)	388	Soundings, deep-sea, by the U. S. S. Enterprise	253
Chinook winds	55	South Africa, map of, showing mean annual rainfall	152
Cliff-picture in Colorado	80	Thunder-squall in New England (2 figs.)	437
Cod, success in hatching eggs of	26	Vase, example of modern-antique Mexican	171
Cold wave, recent (4 figs.)	70, 71	Vintage, date of (2 figs.)	60
Davenport tablets	438		
Fetjoa, blossoms of (3 figs.)	441	Central America, map of, showing interoceanic routes proposed by the French commission under Commander L. N. B. Wyse	opposite 279
Gems, some remarkable (4 figs.)	399	China, map of the Shan states, showing Mr. Hallett's surveys for a railway to south-western	opposite 137
Health of New York during February, 259; during March, 364; during April, 495; during May	565	Composite portraits of three Dakota women, showing the effect of the method of production	opposite 408
Horses, some points in the evolution of (2 figs.)	13	Ohio, geological map of, showing positions of oil and gas wells	opposite 560
Jets, sympathetic vibrations of (8 figs.)	498, 499		
Malarial germ of Laveran (28 figs.)	298		
Rainfall in New England. Feb. 10-14, 1886	255		
Relics from an Indian grave	35		

## ERRATA.

<p>Page 131, col. 2, 4th line from top, for 'times' read 'lines.'</p> <p>" 131, " 2, 32d line from top, for 'sciences' read 'science.'</p> <p>" 132, " 1, 1st line, for 'points to' read 'points.'</p> <p>" 188, " 2, 27th line from bottom, for 'fifteen' read '1.5.'</p> <p>" 250, " 2, 21st line from bottom, for 'two thousand' read 'two.'</p> <p>" 395, " 2, 33d line from top, for 'Zygodium' read 'Lygodium.'</p>	<p>Page 492, col. 1, 2d line from bottom, for 'abilities' read 'utilities.'</p> <p>" 535, " 2, 28th line from top, for 'them' read 'these.'</p> <p>" 535, " 2, 12th line from bottom, for 'Zaphrentes' read 'Zaphrentis.'</p> <p>" 536, " 1, 27th line from bottom, for 'probably' read 'possibly.'</p> <p>" 536, " 1, 22d line from bottom, for 'Tahleh' read 'Zahleh.'</p> <p>" 536, " 2, 14th line from top, for 'there' read 'these.'</p>
---	---