

SCIENCE

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SIMON NEWCOMB

CONTENTS

<i>Simon Newcomb</i> : PROFESSOR R. C. ARCHIBALD	871
<i>The Biology of the Malayan Islands</i> : C. F. BAKER	878
<i>The Presentation of the John Fritz Medal to Elihu Thomson</i> : PRESIDENT RICHARD C. MACLAURIN	881
<i>The Convocation-week Meetings of Scientific Societies</i>	883
<i>Meetings of the Sections of the American Association</i>	885
<i>Scientific Notes and News</i>	887
<i>University and Educational News</i>	890
<i>Discussion and Correspondence</i> :—	
<i>Psychology and Medical Education</i> : PROFESSOR JARED S. MOORE. <i>The Retention of Oil by Clay at Waterville, Me.</i> : HOMER P. LITTLE. <i>The Recognition of Achievement</i> : WILLARD N. CLUTE. <i>Clouds</i> : DR. W. J. HUMPHREYS	890
<i>Scientific Books</i> :—	
<i>Smallwood's Textbook of Biology</i> : PROFESSOR C. E. MCCLUNG	893
<i>Special Articles</i> :—	
<i>The Cause of the Disappearance of Cumarin, Vanillin, Pyridine and Quinoline in the Soil</i> : DR. WILLIAM J. ROBBINS	894
<i>Societies and Academies</i> :—	
<i>The American Physical Society</i> : PROFESSOR A. D. COLE. <i>The Biological Society of Washington</i> : DR. M. W. LYON, JR.	895
<i>The American Association of Variable Star Observers</i> : F. E. B.	898

MS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

THE numerous published biographical sketches of Simon Newcomb all fail to set forth accurately the full extent of the world-wide recognition of his contributions to scientific knowledge, and the breadth of his interests and activities. No other American scientist has ever achieved such general recognition of eminence. It seems desirable, therefore, to assemble the facts to fill this lacuna.¹ The plan which Monsieur Lebon has employed in the admirable *Savants du Jour* series suggested the form of the following synoptic notes.

These notes were prepared several years ago in consultation with members of Professor Newcomb's family, and after inspection of his remarkable collection of diplomas, medals, decorations, and certificates of membership and of other honors. This collection became the property of the nation in 1909, and it is now prominently displayed in the historical section of the National Museum in the Smithsonian Institution at Washington.

Born at Wallace, Nova Scotia, March 12, 1835
 1853: Came to the United States.
 1854: Teacher in a country school at Massey's Cross Roads, Kent Co., Md.
 1855: Teacher in the village school at Sudlersville, Md.
 1855, May 26: First publication, a letter in *The National Intelligencer*, Washington, D. C.
 1857, Jan.-Sept. 1861: Computer in the Nautical Almanac office, then located at Cambridge, Mass. (it has been in Washington, D. C. since 1866). See also 1860, 1861.
 1858, July 2: B.Sc., Harvard University, Cambridge, Mass. See also 1875, 1879-80, 1884, 1898-99, 1906.

¹ A complete bibliography of Newcomb's life and works, by the writer, will soon be published elsewhere.

- 1859, Aug.: Elected Member of the American Association for the Advancement of Science. See also 1874, 1876.
- 1860: Nautical Almanac office dispatched an expedition, in charge of S. Newcomb and W. Ferrel, to observe the total solar eclipse, in July, north of Lake Winnipeg, Canada. See also 1857, 1869, 1870, 1878.
- 1860, Jan. 25: Elected Fellow, in the Division of Mathematics and Astronomy, of the American Academy of Arts and Sciences, Boston. See also 1870, 1880.
- 1861, Sept. 21: Commissioned Professor of Mathematics in the United States Navy by Abraham Lincoln. See also 1877, 1897.
- 1863, Aug. 4: Married to Miss Mary Caroline Hassler, daughter of Dr. C. A. Hassler, U. S. N., and granddaughter of Ferdinand Rudolph Hassler, the founder of the U. S. Coast Survey.
- 1869, Sept. 1: Elected Member of the National Academy of Sciences, Washington, D. C. See also 1878, 1881, 1883, 1902, 1903.
- 1869: Sent by the U. S. government to Des Moines, Iowa, to observe the Solar Eclipse, Aug. 7. See also 1860.
- 1870: Sent by the U. S. government to Gibraltar to observe the Solar Eclipse, Dec. 22. See also 1860.
- 1870, May 24: Elected Associate Fellow (number of such limited to 14 in the Division of Mathematics and Astronomy) of the American Academy of Arts and Sciences, Boston. See also 1860.
- 1870, Nov. 11: Guest at a dinner of the Royal Astronomical Society Club, London. He was also a guest at dinners of this club on the following dates: Jan. 8, 1875; Jan. 12, 1883; June, 1896; June 9, 1899. See also 1872, 1874.
- 1871, May 13: Elected Member of the Philosophical Society of Washington. See also 1879-80, 1908.
- 1871: Appointed Secretary of the Commission, created by Congress for the purpose of observing the Transit of Venus, Dec. 9, 1879, and which organized the expeditions sent out by the United States government. See also 1882.
- 1872, Nov. 8: Elected Associate Member of the Royal Astronomical Society, London. See also 1870.
- 1873: Appointed lecturer in Columbian (afterwards George Washington) University. Resigned 1884. See also 1874, 1884.
- 1873, Aug. 22: Elected at Hamburg a member of the Astronomische Gesellschaft. See also 1887.
- 1873, Dec. 16: Appointed correspondent of the Observatoire de Paris.
- 1874: Elected Fellow of the American Association for the Advancement of Science. See also 1859.
- 1874: LL.D., Columbian University, Washington, D. C., now George Washington University. The following is quoted from the diploma: "Virum clarum Simonem Newcomb coeli dimetiendi stellarumque errantium librandarum peritissimum Legum Doctorem, etc." Since also 1873.
- 1874, Jan. 19: Elected Correspondent of the Académie des Sciences de l'Institut de France. See also 1895, 1906.
- 1874, Feb. 13: Awarded the gold medal of the Royal Astronomical Society, London, for his "tables of Neptune and Uranus and other mathematical works." See also 1870.
- 1875: Offered the directorship of the Harvard Observatory. See also 1858.
- 1875, Feb. 8: Master of Mathematics and Doctor of Natural Philosophy, University of Leyden, on the celebration of the 300th anniversary of its founding.
- 1875, July 1: LL.D., Yale University, New Haven. See also 1877.
- 1875, Nov. 10: Elected a Foreign Associate of the Kungliga Svenska Vetenskapsakademien (Royal Swedish Academy of Sciences), Stockholm.
- 1875, Dec. 29 (Jan. 10): Elected a Corresponding Member of the Imperatorskaja Akedemija nauk (Imperial Academy of Sciences), Petrograd. See also 1896, 1897.
- 1876, June 27: Elected Corresponding Member of the Königliche Bayerischen Akademie der Wissenschaften, Munich.
- 1876, Aug. 30: Elected President of the American Association for the Advancement of Science. Delivered retiring address in 1878. See also 1859.
- 1877: Elected member of the Yale Alumni Association. See also 1875.
- 1877, Sept. 15: Became the senior Professor of Mathematics in the U. S. Navy—with the relative rank of Captain. Appointed Superintendent of the American Ephemeris and Nautical Almanac Office. See also 1857, 1861, 1906.
- 1877, Nov. 27: Elected Associate of the Kungliga Vetenskaps-Societeten (Royal Scientific Society), Upsala, Sweden.
- 1877, Dec. 13: Elected Foreign Member of the Royal Society, London. The number of such members is limited to 50. See also 1890, 1895.
- 1878: Sent by U. S. government to Separation, Wyoming, to observe the total Solar Eclipse, July 29. See also 1860.
- 1878, Jan. 18: Elected Member of the American

- Philosophical Society, Philadelphia. See also 1903, 1906, 1908, 1909.
- 1878, May 18: Elected Foreign Member of the Hollandsche Maatschappij der Wetenschappen, Harlem. The only other American Foreign Member was J. D. Dana. (Number of Foreign Members limited to 60.) See also 1880.
- Awarded the Huygen's medal by the Society which had "resolved to award biennially a medal to the individual who, by his researches and discoveries or inventions during the previous twenty years had, in the judgment of the Society, distinguished himself in an exceptional manner in a particular branch of science."
- 1878, May 20: Elected Honorary Member of the Cambridge [England] Philosophical Society.
- 1878, Aug.: Appointed by the National Academy of Sciences on a Committee to plan for surveying and mapping the territories of the United States. See also 1869.
- 1879-80: President of the Philosophical Society of Washington. See also 1871.
- 1879-80: Lecturer on Political Economy at Harvard University. (Four Lectures.) See also 1858.
- 1880, May 26: Delegate of the Hollandsche Maatschappij der Wetenschappen at the celebration of the 100th anniversary of the founding of the American Academy of Arts and Sciences at Boston. See also 1860, 1878.
- 1881: Elected Honorary Foreign Fellow (limited to 36) of the Royal Society of Edinburgh.
- 1881: Became an administrator of the Watson Fund on behalf of the National Academy and continued in active service in connection with it (chairman of the Board of Trustees from 1887) until his death. The fund was founded by the will of Professor J. C. Watson and it provided the means for support of research and investigation and the award of the Watson Gold Medal. See also 1869.
- 1881: Elected Home Secretary of the National Academy of Sciences; held the office till 1883. See also 1869.
- 1881: Appointed by the National Academy of Sciences chairman of a Committee on Questions of meteorological science and its applications. Committee discharged in 1884. See also 1869.
- 1881-82: Delivered twelve lectures at the Lowell Institute, Boston, on the "History of Astronomy."
- 1881, March 9: Elected Foreign Member of the Kungliga Fysiografiska Sällskapet (Royal Physiological Society), Lund, Sweden.
- 1882: Sent by the U. S. government to Cape of Good Hope to observe the transit of Venus, Dec. 6. See also 1871.
- 1882, Mar. 16: Elected Honorary Member in the Section of Science of the Royal Irish Academy, Dublin. Such members are limited to 30, of whom one half at least must be foreigners.
- 1883: Elected Vice-president of the National Academy of Sciences. He continued in this office till 1889. See also 1869.
- 1883, June 7: Elected Corresponding Member of the Königl. Preussischen Akademie der Wissenschaften, Berlin. See also 1899.
- 1884: LL.D. Harvard University, Cambridge, Mass. In the diploma occur the words: "Simon Newcomb virum summo ingenio præditum Mathematicum acutissimum rerumque coelestium peritissimum." See also 1858.
- 1884: Appointed Member of the Board of Examiners of the International Electrical Exhibition of The Franklin Institute of the State of Pennsylvania. See below.
- 1884: Appointed Professor of Astronomy in the Corcoran Scientific School of Columbia (since 1904 George Washington) University. Resigned 1886. See also 1873.
- 1884, July 22: Appointed by President Arthur, Commissioner of the National Conference of Electricians at The Franklin Institute, Philadelphia. See above.
- 1884, Aug.: Elected Corresponding Member of the British Association for Advancement of Science. See also 1904.
- 1884, Oct.: Appointed Professor of Mathematics and Astronomy at Johns Hopkins University, and lectured there till Jan. 1, 1894. He was re-appointed in 1898 and retained the position till 1900. See also below, 1897, 1899, 1900, 1901, 1902.
- 1884-94, 1899 and 1900: Editor-in-Chief of the *American Journal of Mathematics*, Johns Hopkins University. Associate Editor; 1878, 1879, 1895-98, 1901-1909. See also 1884.
- 1885: Elected the first President of the American Society for Psychological Research. Reelected President of the Society in 1886.
- 1885, June 18: Asked if he would accept the Presidency of the University of California.
- 1886: Ph.D., University of Heidelberg, Germany, on the celebration of the 500th anniversary of its founding. Degree conferred *in absentia*.
- 1886, Jan. 15: Elected Honorary Member (at the same time as Chrystal and Sylvester) of the Association for the Improvement of Geometrical Teaching, afterwards the Mathematical Association, London.

- 1886, Oct. 11: Elected Associate of the Liverpool Astronomical Society.
- 1886, Nov. 6: Elected President of the Alumni Association of the Lawrence Scientific School in Harvard University. See also 1858.
- 1887: President of the Political Economy Club of America.
- 1887: Elected one of the eight members of the Council of the Astronomische Gesellschaft, an international astronomical society that meets once in two years. See also 1873.
- 1887: The Russian Emperor orders his portrait to be painted and placed in the gallery of famous astronomers at the Imperial Observatory at Pulkovo. See also 1889.
- 1887, Jan. 4: Elected Member of the Anthropological Society, Washington, D. C.
- 1887, Apr. 13: LL.D., Columbia University, New York, on the occasion of the celebration of the "one hundredth anniversary of the Revival and Confirmation by the Legislature of the State of New York of the Royal Charter granted in 1754."
- 1887, Apr. 19: Elected Honorary Member of the Manchester Literary and Philosophical Society, Manchester, England.
- 1888: Imperial University of Tokyo, Japan, officially presents him with a pair of bronze vases of exquisite workmanship and design and great intrinsic value.
- 1888, Nov. 3: Elected Correspondent of the Königlische Gesellschaft der Wissenschaften, Göttingen. See also 1907.
- 1889: Presented with a rare vase of jasper on a pedestal of black marble, six and one half feet high, which, says Mr. Nyren's letter announcing the gift, "in recognition of these merits, His Majesty the Emperor has graciously sent as a present for you from the observatory at Pulkovo." An attached silver label has the following inscription: "A Monsieur le Professeur Simon Newcomb de la part de l'Observatoire Central Nicolas de Poulkovo 7/19 août, 1889." See also 1887.
- 1889, Sept.-Nov.: Foreign Associate of the Commission of Organization of the Congrès International de Chronométrie. (In connection with the World's Exposition, 1889.)
- 1890, June 4: Elected a Member of the American Academy of Political and Social Science, Philadelphia.
- 1890, Nov.: Awarded the Copley Medal by the Royal Society, London, for contributions to the progress of gravitational astronomy. Franklin was the first recipient of this medal, in 1753. The medal was accompanied by a cheque for £50. See also 1877.
- 1891, May 4: Elected Honorary Member (number restricted to 50) of the New York Academy of Sciences.
- 1891, May 4: One of the twenty-one eminent scientific men elected Honorary Members of the Royal Institution of Great Britain, on the celebration of the Faraday Centenary. Diploma presented by the Prince of Wales on June 17.
- 1891, Aug.: Elected Honorary Member of the Committee of Organization for the Fifth International Congress of Geologists, Washington.
- 1891, Aug. 1: LL.D., Edinburgh University, Scotland. This degree was first offered in connection with the celebration (April 17, 1884) of the 300th anniversary of the founding of the university, and finally conferred *in absentia*.
- 1891, Nov. 3: Elected Honorary Fellow (number limited to 15) of the Astronomical and Physical Society of Toronto, now the Royal Astronomical Society of Canada.
- 1891, Nov. 7: Elected a Member of the New York Mathematical Society. In 1894 this society became the American Mathematical Society. It was on Newcomb's suggestion (letter dated Jan. 29, 1891) that the *Bulletin of the New York Mathematical Society* (started October, 1891) was devoted to the interests of applied as well as of pure mathematics. See also 1896.
- 1891, Dec. 15: Elected Associate (number limited to 50) of L'Académie Royale des Sciences, des Lettres et des sciences morales et politiques et des Beaux Arts de Belgique, Brussels.
- 1892, July 6: Sc.D., Dublin University, Ireland, at the celebration of the tercentenary of its foundation.
- 1892, Dec. 7: Phil.Nat.D., University of Padua, Italy, on the occasion of the celebration of the 300th anniversary of the appointment of Galileo as a Professor. Degree conferred *in absentia*.
- 1894, May 29: Announced that "Aristides" (= S. Newcomb) was the winner of the first prize, \$150, of two "Citizenship Prizes" offered in 1893 by the Anthropological Society of Washington for the best essay on a given topic and not over 3,000 words in length. The essay was entitled: "The Elements which make up the most useful citizens of the United States," and was published in the *American Anthropologist* for 1894.
- 1895-1903: Mathematical Editor of SCIENCE.
- 1895: Appointed a judge of Instruments of Precision at the Atlanta Exposition.
- 1895: Awarded the *Astronomical Journal* prize of

- \$400 for the "most thorough discussion of the theory of the rotation of the earth, with reference to the recently discovered variation of latitude."
- 1895, June 17: Elected one of the eight Foreign Associate Members of the Académie des Sciences de l'Institut de France, to succeed Helmholtz, the celebrated physiologist. It is said that Newcomb was the first native American since Franklin so honored. See also 1874.
- 1895, Aug. 1: Elected Foreign Associate of the Astronomical Section of the Reale Accademia dei Lincei, Rome. (Number of astronomers limited to 8.) See also 1906.
- 1895, Nov. 21: Appointed a Delegate on the part of the United States to the Conference, held in London, July, 1896, under the auspices of the Royal Society, to discuss the question of preparing, by international cooperation, an adequate catalogue of scientific literature. See also 1877.
- 1896: Elected an Honorary Member of the Imperatorskaja Akademija nauk (Imperial Academy of Sciences), Petrograd. (Number limited to 50.) See also 1875.
- 1896, Jan. 4: Elected an Officer of the Legion of Honour of France. The grade of Officer, which is next above that of Chevalier, is limited to 4,000, mostly Frenchmen. Simon Newcomb was authorized by Congress to receive this decoration (see *Congressional Records*, March 3, 1897); for the Constitution of the United States provides (Art. 1, Sec. 9, Par. 7): "No title of nobility shall be granted by the United States; and no person holding any office of profit or trust under them shall, without the consent of Congress, accept of any present, emolument, office or title, of any kind whatever, from any king, prince or foreign state."
- 1896, May: Delegate to the Conference at Paris on the Astronomical Constants.
- 1896, June 15-16: Invited guest at celebration in Glasgow of Lord Kelvin's Jubilee.
- 1896, June 16: LL.D., Glasgow University, Glasgow.
- 1896, June 18: Sc.D., Cambridge University, England. In introducing Simon Newcomb, the public orator said that his distinction was owing to a great degree to his comparative researches in ancient lunar observations.
- 1896, Oct. 22: LL.D., Princeton University, Princeton, at the celebration of the sesqui-centenary of its foundation.
- 1896, Dec. 30: Elected President of the American Mathematical Society, New York, for two years.
- Delivered Presidential Address Dec. 29, 1897. See also 1891.
- 1897: Awarded the Schubert Prize (900 roubles = \$460.80) by the Imperatorskaja Akademija nauk, Petrograd. This was the third time that the prize had been awarded. The award is made biennially for notable achievement in theoretical astronomy. The prize is the income from a foundation of 10,550 roubles in honor of F. F. Schubert, a general in the infantry and a former member of the Academy. See also 1875.
- 1897, Jan. 4: Elected a Member of the Columbia Historical Society of Washington, D. C.
- 1897, Feb. 12: Elected a Corresponding Member of the Imperatorskaja Russkoje Geografičeskoje obščestvo (Imperial Russian Geographical Society), Petrograd.
- 1897, Feb. 22: At the celebration of the 21st Anniversary of the founding of Johns Hopkins University, requested by the faculty and friends to sit for a portrait to be given to the University. This painting was executed by R. G. Hardie and was reproduced in the *American Journal of Mathematics* for 1899. See also 1884.
- 1897, Mar. 1: Elected a Foreign Associate of Società Italiana delle Scienze (detta dei XL.) Rome. The society has 40 Italian and 12 Foreign Associate members in the Class of Physics-Mathematics. He was the only American in the class. See also 1902, 1906.
- 1897, March 12: Placed on the retired list of the U. S. Navy by reason of age and therefore ceased to be Superintendent of the American Ephemeris and Nautical Almanac. See also 1857.
- 1897, June 30: Elected Honorary Corresponding Member of the Royal Society for the Encouragement of Arts, Manufactures and Commerce (commonly called the Royal Society of Arts), London.
- 1897, Nov. 27: The first recipient of the Bruce Gold Medal, from the Astronomical Society of the Pacific. In 1897, Miss Bruce gave to this Society "a sum of money for the foundation of a gold medal, to be awarded annually as a recognition of services to astronomy, and to be given to the one judged most worthy, without restriction as to race, nationality or sex. No person shall be twice a recipient." In 1891, Miss Bruce gave Professor Pickering \$6,000, to be distributed for the promotion of astronomical research. A portion of this amount was assigned to Professor Newcomb.
- 1898: Cape Newcomb of the Hoyt Islands, Hubbard Bay, West Greenland, is named after

- Simon Newcomb. (See *National Geographic Magazine*, Volume 9, page 3.)
- 1898-99: Appointed by the Board of Overseers of Harvard College, a member of the Committee to visit the Observatory. See also 1858.
- 1898, Feb. 27: Elected Foreign Associate of the Reale Istituto Veneto di Scienze, Lettere ed Arti, Venice.
- 1898, Mar. 16: Elected Honorary Member of the Colonial Society of Massachusetts. (One of nine Honorary Members.)
- 1898, Apr. 23: Elected Honorary Member of the mathematics-natural science section of the Koninklijke Academie van Wetenschappen, Amsterdam. (Number limited to 20.)
- 1899, April: Appointed by Johns Hopkins University, Baltimore, as Delegate to the Jubilee celebration of Sir George G. Stokes at Cambridge, England, June 1-2. See also 1884.
- 1899, June 8: D.C.L., Oxford University, England.
- 1899, June 22: Elected Associate Corresponding Member of the Reale Istituto Lombardo di Scienze e Lettere, Milan.
- 1899, July 3: Elected Foreign Correspondent of the Bureau des Longitudes, Paris. Number limited to 10.
- 1899, Sept. 8: Elected the first President of the Astronomical and Astrophysical Society of America. The Society was organized at the third conference of Astronomers and Astrophysicists held at the Yerkes Observatory in accordance with arrangements made by a committee (of which S. Newcomb was chairman) appointed at the second conference held at Harvard Observatory in August, 1898. S. Newcomb was president of the society for six consecutive years.
- 1899, Oct. 9-10: Delegate from National Academy of Sciences to a conference at Wiesbaden (called by the Königliche Preussischen Akademie der Wissenschaften, Berlin) for the purpose of organizing an international association of learned societies. See also 1883.
- 1900, June 11: LL.D., University of Cracow, Austria, on the celebration of the 500th anniversary of its foundation. Degree conferred *in absentia*.
- 1900, Nov. 7: "With grateful recognition of the valuable counsel you have given to this university since its organization, the academic council has unanimously recommended to the Trustees that you be appointed Emeritus Professor of Mathematics [at Johns Hopkins University] and the Board of Trustees with like unanimity approved this recommendation." See also 1884.
- 1901, Feb. 22: One of the two to receive the first award of the Sylvester Prize of Johns Hopkins University. The prize was a handsome bronze medallion of the late Professor Sylvester, framed in oak. It was inscribed: "To Simon Newcomb, U. S. N., LL.D., Professor of Mathematics and Astronomy in the Johns Hopkins University, 1884-1900. In recognition of his distinction and his service." In the course of the ceremonies, President Gilman announced the award as follows: "The first impression of this tablet is presented to Lord Kelvin, who lectured here on 'The Nature of Light,' in 1884. . . . The second copy of the tablet is now offered to Professor Simon Newcomb, a distinguished astronomer, who has been a friend of the University from its inception, and who guided the affairs of the Mathematical Department for many years." See also 1884.
- 1901, Oct.: Elected Honorary Member of the Heidelberg Literary Society, Heidelberg University, Tiffin, Ohio.
- 1901, Oct. 8/21: Elected Honorary Member of the Russkoje Astronomičeskoje občestvo, Petrograd.
- 1901, Nov. 6: Elected Honorary Member of the Royal Society of New South Wales, Sydney, Australia.
- 1902, Feb. 21: LL.D., Johns Hopkins University, at the celebration of the twenty-fifth anniversary of the founding. "In recognition of his pre-eminent attainments and important discoveries in science." See also 1884.
- 1902, Feb. 26: Guest at a banquet, given by eminent citizens of New York, in honor of H. R. H. Prince Henry of Prussia. He was one of the 94 participants chosen as "Captains of Industry" in the United States.
- 1902, Apr. 14: Elected Honorary Member of the Sociedad Astronomica de Mexico.
- 1902, June 1: Presented to King Vittorio Emanuele III. of Italy just after a meeting of the Reale Accademia dei Lincei. See also 1897.
- 1902, Sept. 6: Math.D., University of Christiania, Norway, in connection with the celebration of the Centenary of the birth of Niels Henrik Abel. Professor Newcomb went as delegate from the National Academy of Sciences. During the celebration he was presented to King Oscar of Sweden and Norway. See also 1869.
- 1903: Appointed by the Trustees, one of five members of the Advisory Committee in Astronomy of the Carnegie Institution of Washington. In 1903, Professor Newcomb received a grant of \$3,000, and in 1904 a grant of \$2,500, in 1905, \$7,500, in 1906, \$5,000, in 1907, \$5,000 and in 1908, \$5,000, from this Institution for expenses in connection with his investigations.

- 1903: Elected Foreign Secretary of the National Academy of Sciences. Held the office till his death. See also 1869.
- 1903: Appointed delegate to represent the National Academy of Sciences at the meeting of the International Association of Academies, which occurred in London, June 4, 1903. See also 1869.
- 1903, Feb. 26: Requested to send a letter to be read at the celebration of the twenty-fifth anniversary of the death of Fra Angelo Secchi, S.J., at Rome, Italy.
- 1903, Apr.: By the American Philosophical Society appointed a Member (one of 26) of a Committee to organize the Bicentenary Celebration of Franklin's birth. See also 1878.
- 1903-04: President of the International Congress of Arts and Sciences, Louisiana Purchase Exposition, which met at St. Louis, September 19-25, 1904. He received a diploma "for distinguished services in promoting" the Congress. As President of the Congress he was delegated to visit France and England to invite scientists of these countries to participate in the Congress. On March 29 he gave a dinner at Paris, for a number of French scientists. He was presented to President Loubet of France about this time. See also 1906.
- 1903, June: Presented to King Edward VII. of England.
- 1904: One of the Vice-presidents of the Mathematics and Physics Section of the British Association for the Advancement of Science. See also 1884.
- 1904, May 20: Elected Corresponding Member of the Kaiserliche Akademie der Wissenschaften, Vienna. (Limited to 80 members.)
- 1904, June: LL.D., University of Toronto. The Senate of the University voted on June 6, 1900, to confer the degree, but it was not till 1904 that Professor Newcomb could attend a convocation to receive it.
- 1905, March 5: Elected Corresponding Member of the Reale Accademia della Scienze, Turin.
- 1905, March 11: Invited by Senator Baron d'Estournelles de Constant, Paris, to be one of the "Membres d'Honneur" of the Comité de Défense des Intérêts Nationaux et de Conciliation Internationale" of which the Baron was Président Fondateur.
- 1905, Apr. 28: Elected Corresponding Member of L'Institut National Gênois, Geneva.
- 1905, Nov. 8: By the German Emperor made Knight of the Prussian Order "Pour le Mérite für Wissenschaften und Künste." The Order of Merit is composed of two classes, military and civil. The first class was founded by Frederick the Great in 1740. The second class founded by Frederick William IV., in 1842, for distinction in Science and Art has always been very highly prized. It is the only decoration which Thomas Carlyle would ever accept. Knighthood in this order is limited to 30 Germans and a not larger number of foreigners. At the time of Simon Newcomb's election there were about 20 foreign Knights. The bill granting permission to Newcomb to accept this decoration became law on April 6, 1906.² Compare 1896.
- 1906-07: President of the Cosmos Club, Washington, D. C.
- 1906, Apr. 17-20: Delegate at the Bicentenary Celebration of Benjamin Franklin's Birth, at Philadelphia, from: (1) Reale Accademia di Scienze, Lettere ed Arti, Padua; (2) Reale Accademia dei Lincei, Rome; (3) L'Académie des Sciences de l'Institut de France, Paris; (4) Società Italiana delle Scienze, Rome. Recipient of one of the Franklin Bronze Medals struck in accordance with an Act of Congress approved April 27, 1904. See also 1874, 1878, 1895, 1897, 1903, below.
- 1906, June 27: Elected a Member of the Board of Overseers of Harvard University, for 6 years. Simon Newcomb was the first graduate of the Lawrence Scientific School, not already a graduate of the College, who was elected to this body. See also 1858.
- 1906, June 30: Elected Honorary Member of the Reale Accademia di Scienze, Lettere ed Arti, Padua. See also above.
- 1906, June 30: Commissioned Rear-Admiral when Congress authorized the President to make promotions of officers who had served in the Civil War and who had been discriminated against by previous laws. See also 1877.
- 1906, Sept. 25: At the quatercentenary celebration of the founding of the University of Aberdeen, Scotland, on this date various honorary degrees were conferred. Professor Newcomb was invited to be present to receive the degree of LL.D., but he was unable to accept the invitation.
- 1906, Dec. 8: Bronze plaque sent from Berlin and addressed to "Dr. Simon Newcomb, St. Louis" by Th. Lewald, "Der Reichskommissar für die Weltausstellung in St. Louis, 1904," who wrote: "In commemoration of Germany's participation
- ² On the death of a Knight it is required that the decoration be returned to the German government.

in the International Exposition at St. Louis, 1904, I have had a plaque prepared which forms a lasting memento of the cordial and pleasant relations which prevailed there. I take the liberty of forwarding for your acceptance a specimen with your name engraved on it." The plaque is inscribed on one side "Simon Newcomb, *Arta Artis Vincula*" and in small letters "Peter Breuer," and on the other side: "Zur Erinnerung an Deutschlands Beteiligung an der Weltausstellung in St. Louis, MCMIV." See also 1903-04.

1907, Jan. 5: Made *Commandeur de l'Ordre National de la Légion d'Honneur*, France. A bill granting permission to accept this decoration was deemed unnecessary in view of the permission already given to accept the rank of Officer of the *Légion d'Honneur*.

1907, Feb. 8: Elected one of the 12 Honorary Fellows of the Physical Society, London.

1907, March 22: Elected a Foreign Member of the mathematics-natural science class of the *Videnskabs Selskabet* (Society of Sciences), Christiania. (Number limited to 100.)

1907, June 3: Elected Honorary Member of the *Société Scientifique* "Antonio Alzate," Mexico.

1907, July: Lecturer at the Summer School of the University of California.

1907, July 20: Elected Foreign Member of the *Königliche Gesellschaft der Wissenschaften*, Göttingen. Election royally confirmed Oct. 4. See also 1888.

1908, April 6-11: One of the 11 Vice-presidents and one of the 9 principal speakers of the Fourth International Congress of Mathematicians held at Rome, Italy. He was the only American on the International Committee (61 members) for organization of the Congress. He was also a Delegate from the Smithsonian Institution and the American Philosophical Society. See also 1879.

1908, Aug.: Delegate from the National Geographic Society at Washington to the International Congress of Geography at Geneva, Switzerland.

1908, Aug. 17: Received in audience by Emperor William II. at *Wilhelmshöhe*, Germany, and lunched with his Majesty and the Empress.

1908, Nov. 13: Appointed one of the Committee of 19 on the "Charles William Eliot Fund."

1908, Dec. 19: Elected President of the Philosophical Society of Washington. See also 1871.

1909, Jan. 1: Elected Vice-president of the American Philosophical Society, Philadelphia, Pa. See also 1878.

1910, July: At this time the two bronze doors for the West Entrance of the U. S. Capitol, designed and modeled by Professor Louis Amateis, of Washington, were cast in New York. In the Science panel of one of the doors is a medallion of Newcomb. At present the doors are in the north vestibule of the National Museum, new building.

Died at Washington, D. C., July 11, 1909

R. C. ARCHIBALD

THE BIOLOGY OF THE MALAYAN ISLANDS¹

THERE are not many biologists who have not read with absorbing interest, the account by Wallace of his experiences in the Malayan countries, and his conclusions therefrom. Likewise, there are but few biologists unfamiliar with the story of Beccari's experiences in Borneo, or with the account of d'Alberty's expedition to the Fly River. Probably no similar area of land surface has ever yielded, on superficial examination, such a wealth of unique living organisms and striking biological problems. We have reason to know that all of the early work in these regions has been in the nature of pioneer reconnaissance—the breaking of trails—and that the field as a whole is to-day as near a virgin field as any remaining on earth.

It is doubtful if the geography of any other similarly extensive region of earth is so unfamiliar to Americans as that of the Malay Peninsula Region, and the Malay Archipelago. When we speak of the Sunda Group, the Moluccas, or even the large and important Islands of Celebes, Gilolo, Ceram, or Bouru, Americans commonly have but dim idea of their location. And how many Americans know the difference between Macassar and Malacca, or Sulu and Sula? Yet this whole region, including the Philippines, extends from 2 degrees north to 10 degrees south, for a distance of some 2,300 miles, and more than 2,000 miles from east to west. Its northernmost limit falls in the latitude of Mexico City, Santiago de Cuba and Bombay. Its southernmost limit falls in the latitude of Central

¹ Letter addressed to Dr. David Starr Jordan.