

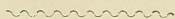


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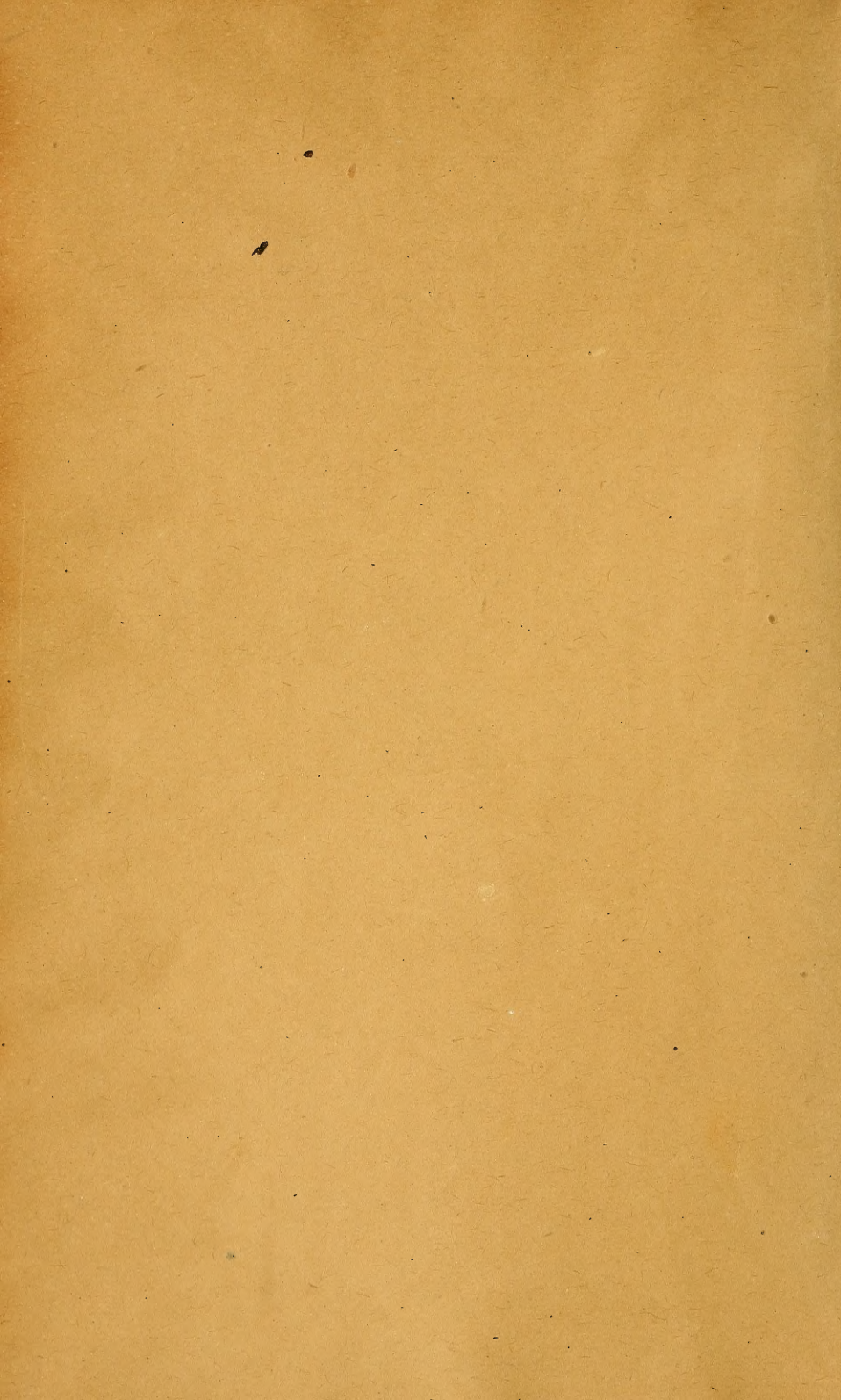
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Apr. 30. 1874



PROCEEDINGS

OF THE

AMERICAN PHILOSOPHICAL SOCIETY,

HELD AT PHILADELPHIA,

FOR

PROMOTING USEFUL KNOWLEDGE.

VOL. V.

JANUARY, 1848, TO DECEMBER, 1853.

PHILADELPHIA:

PRINTED FOR THE SOCIETY,

By John C. Clark, 68 Dock Street.

1854.

PROCEEDINGS

OF THE

AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V.

JANUARY—APRIL, 1848.

No. 40.

Stated Meeting, January 7.

Present, nineteen members.

Dr. PATTERSON, Vice-President, in the Chair.

The returns of the election for officers held this day were presented and read, when it appeared that the following gentlemen had been elected:—

President.

Nathaniel Chapman, M.D.

Vice-Presidents.

Robert M. Patterson, M.D.

Franklin Bache, M.D.

Alexander Dallas Bache, LL.D.

Secretaries.

Hon. John K. Kane,

Robley Dunglison, M.D.

John F. Frazer,

Charles B. Trego.

Members of the Council for Three Years.

Clement C. Biddle,

William Short,

Joseph Henry,

Benjamin Dorr, D.D.

Curators.

Franklin Peale,

John Price Wetherill,

John C. Cresson.

Treasurer.

Benjamin W. Richards.

The following donations were announced:—

FOR THE LIBRARY.

Etudes d'Astronomie Stellaire: Sur la voie lactée, et sur la distance des étoiles fixes. Rapport fait à son Excellence M. le Comte Ouharoff, Ministre de l'Instruction Publique, et Président de l'Académie Impériale des Sciences. Par F. G. W. Struve, Directeur de l'Observatoire Central de Russie. St. Petersburg, 1847.—*From F. G. W. Struve.*

Annals and Magazine of Natural History, including Zoology, Botany, and Geology. Vol. XX. No. 134. November, 1847. 8vo.—*From Sir Wm. Jardine, Bart.*

The Past, the Present, and the Future. By H. C. Carey, Author of "Principles of Political Economy," &c. Philadelphia, 1848. 8vo.—*From H. C. Carey.*

Journal of the Academy of Natural Sciences of Philadelphia. New Series. Vol. I. Part 1. 4to.—*From the Academy.*

The African Repository and Colonial Journal. Vol. XXIII. No. 12. December, 1847, and Vol. XXIV. No. 1. January, 1848. 8vo. *From the American Colonization Society.*

Medical News and Library. Vol. VI. No. 61. January, 1848. 8vo.—*From Lea & Blanchard.*

Journal of the Franklin Institute of the State of Pennsylvania. Vol. XLV. No. 265. Third Series. Vol. XV. No. 1. Jan. 1848. 8vo.—*From the Institute.*

Senate Journal: Journal of the Senate of the United States of America; being the Second Session of the Twenty-ninth Congress, begun and held at the City of Washington, December 7, 1846, in the 71st year of the Independence of the United States. Washington, 1846-7. 8vo.

House Journal: Journal of the House of Representatives of the United States; being the Second Session of the Twenty-ninth Congress, begun and held at the City of Washington, December 7, 1846. Washington, 1846-7. 8vo.

Public Documents: Printed by order of the Senate of the United States, during the Second Session of the Twenty-ninth Congress. In Three Volumes. 8vo. Washington, 1847.

Executive Documents: Second Session of Twenty-ninth Congress. In Four Volumes. 8vo. Washington, 1846-7.

Reports of Committees: Second Session of Twenty-ninth Congress.
Washington, 1846-7. 8vo.

In all Ten Volumes.—*From the Hon. the Secretary of State.*

Proceedings of the Academy of Natural Sciences of Philadelphia.

Vol. III. No. 11. September and October, 1847.—*From the Academy.*

ADDITIONS TO THE LIBRARY BY PURCHASE.

London, Edinburgh, and Dublin Philosophical Magazine, and Journal
of Science. Third Series. No. 209. November, 1847. 8vo.

Astronomische Nachrichten. No. 612 to 615. Altona, Sept. 30 to
Oct. 30, 1847. 4to.

The Committee on the communication of Mr. J. M. Gilliss,
U. S. N., dated 22d October, 1847, made a report, recom-
mending the adoption of the following resolutions:—

Resolved, That the proposed method of Dr. Gerling, of Marburg,
for determining the solar parallax, by observations of the planet Ve-
nus when stationary and at the conjunctions, and the plan of Lieut.
Gilliss for its accomplishment, by means of similar observations at
the Naval Observatory at Washington, and in South America, would,
if successfully carried out under the direction of the Navy Depart-
ment, furnish valuable astronomical data, and confer honour upon
our country.

Resolved, therefore, that this Society do hereby commend the pro-
posed plan to the favour and adoption of the present distinguished
head of that department, or, if necessary, to the Congress of the
United States; and that in testimony of the opinion of this Society
upon this subject, an official copy of these proceedings be transmitted
to the Secretary of the Navy.

The resolutions were adopted by the Society.

Mr. Frazer, Reporter, presented a letter from Prof. Halde-
man, dated Columbia, 22d November, 1847, enclosing a list of
additions and amendments to his paper on the Longicornia,
which, by the oversight of the Reporter, had not been pre-
sented at the proper time: whereupon the Society directed it
to be published in the Proceedings under its appropriate date,
and with the proper explanations.

Pending nominations, from No. 197 to 202, inclusive, were
read.

The Chairman of the Publication Committee laid upon the table Vol. X. Part 1, of the Transactions of the Society.

On motion of the Librarian, the Ethnological Society of Paris was put on the list of exchanges of this Society.

Stated Meeting, January 21.

Present, twenty-six members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

A letter was received and read:—

From M. U. J. Leverrier, dated Paris, 19th June, 1847, acknowledging the receipt of notice of his election as a member of this Society.

The following donations were announced:—

FOR THE LIBRARY.

American Journal of Science and Arts. Conducted by Professor B. Silliman and B. Silliman, Jr., and James W. Dana. Second Series. No. 8. March, 1847. No. 13. January, 1848. 8vo.—*From the Editors.*

American Journal of the Medical Sciences. Edited by Isaac Hays, M.D., Surgeon to Wills' Hospital, Physician to the Philadelphia Orphan Asylum, &c. &c. No. XXIX. New Series. January, 1848. 8vo.—*From the Editor.*

Substance of the Argument of John M. Clayton, of Delaware, for the United States, in the matter of the Pea Patch Island, before the Hon. John Sergeant; delivered in the Hall of American Independence, in the City of Philadelphia, on the second and third of December, 1847: containing a Discussion of the Title of the States of Delaware and New Jersey to the River Delaware and its Islands. Philadelphia, 1848. 8vo.—*From the Hon. John M. Clayton.*

Lecture, introductory to a Course on Surgery, in the University of Pennsylvania: containing a Short Account of Eminent British Surgeons, Physicians, Scientific and Literary Men; delivered October 22, 1847. By William Gibson, M.D., Professor of Surgery. Philadelphia, 1847. 8vo.—*From the Author.*

Lecture, correlative to a Course on Surgery, in the University of Pennsylvania; embracing a Short Account of Eminent Belgian Surgeons, Physicians, &c. &c.; delivered December 22, 1847. By William Gibson, M.D. Philadelphia, 1848. 8vo.—*From the Author.*

Discourse on the Surviving Remnant of the Indian Race in the United States. By Job R. Tyson. 8vo.—*From the Author.*

An Oration delivered before the Society of the Sons of New England of Philadelphia, December 22, 1847, the Anniversary of the Landing of the Pilgrims. By W. H. Dillingham. Philadelphia, 1847. 8vo.—*From the Author.*

Mr. Ord announced the death of Count Graberg de Hemso, a member of this Society.

Mr. Lea announced the death of M. Alexandre Brogniart, a member of this Society.

Prof. Kendall read a letter from Prof. Peirce, of Cambridge, giving the results of a second approximation to the theory of the planet Neptune, from Mr. Walker's most recent elements.*

Mr. Charles B. Trego was elected Librarian of the Society; Mr. Ord, the former Librarian, declining a re-election.

The following gentlemen were appointed on the Standing Committees of the Society:—

Committee of Finance.—Dr. Robert M. Patterson, *Chairman* (in place of Mr. C. C. Biddle, who declined serving), Mr. Lea, Mr. Wagner.

Committee on the Hall.—Judge J. K. Kane, *Chairman* (in place of Mr. G. Campbell, who declined serving), Mr. Fraley, Mr. F. Peale.

Committee on the Library.—Dr. Isaac Hays, *Chairman*, Mr. G. Campbell, Mr. Ord.

Committee of Publication.—Mr. I. Lea, *Chairman*, Dr. Hays, Mr. J. Francis Fisher.

The list of surviving members was read. The number is 319.

* As the substance of this letter had already been communicated to the American Academy of Boston, and has been published in their Proceedings, it is omitted here.

The Society then proceeded to ballot for candidates for membership.

The following resolution was, on motion of Judge Kane, unanimously adopted:—

Resolved, That the cordial thanks of the Society be and they hereby are tendered to George Ord, Esq., for the faithful, assiduous, and effective manner in which he has for several years discharged the duties of Treasurer and Librarian of this Society.

On motion of Dr. Patterson, permission was granted to Mr. R. Tilghman to publish his paper on the Decomposition of Substances by Steam at a High Temperature, as an extract from the forthcoming volume of this Society's Transactions, in any of the scientific journals of this country.

The other business being finished, the ballot box was examined, and the following gentlemen were declared to have been duly elected members of this Society:—

Mr. JOHN F. JAMES, of Philadelphia.

Rev. ROBERT BAIRD, D.D., of New York.

Lieut. J. MELVILLE GILLISS, of Washington.

J. C. ADAMS, Esq., St. John's College, Cambridge (England).

Prof. ASA GRAY, of Cambridge (Mass.).

Dr. GUSTAV. ADOLPH JAHN, of Leipsic.

Stated Meeting, February 4.

Present, seventeen members.

Dr. PATTERSON, Vice-President, in the Chair.

Mr. John F. James, a newly elected member, was introduced and took his seat.

Letters were received and read:—

From the Zoological Society of London, dated London, April, 1847, acknowledging the receipt of the Transactions and Proceedings of this Society:—

From the Imperial Society of Naturalists at Moscow, dated

1-13 July, 1847, and 16-23 Sept., 1847, announcing donations to this Society:—

From Mr. Henry Denny, Secretary of the Geological and Polytechnic Society of the West Riding of Yorkshire, accompanying seven Nos. of the Proceedings of that Society, and expressing a willingness to continue sending them, if this Society desired it: and—

From J. M. Gilliss, U. S. N., dated Washington, 26th Jan., 1848, and Prof. Asa Gray, dated Cambridge, Mass., 1 February, 1848, acknowledging the receipt of notice of their election as members of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Transactions of the Zoological Society of London. Vol. III. Part 4. London, 1846. 4to.—*From the Society.*

Proceedings of the Zoological Society of London. Nos. 155 to 177. Jan. 13, 1846, to July 27, 1847. 8vo.—*From the same.*

Reports of the Council and Auditors of the Zoological Society of London, read at the Annual General Meeting, April 29, 1847. 8vo.—*From the same.*

List of the Fellows and Honorary Foreign and Corresponding Members of the Zoological Society of London; together with the Holders of Ivory Tickets. London, June, 1847. 8vo.—*From the same.*

Quarterly Journal of the Geological Society. No. 12. Nov. 1, 1847. London, 1847. 8vo.—*From the Society.*

Proceedings of the Royal Astronomical Society. Vol. VII. No. 17. London, 1847. 8vo.—*From the Society.*

Bulletin de la Société Impériale des Naturalistes de Moscou. No. 4, 1846; et Nos. 1 & 2, 1847. Moscou, 1846-7. 8vo.—*From the Society.*

Rapport sur la Séance Extraordinaire de la Société Impériale des Naturalistes de Moscou, du 22 Février, 1847, à l'occasion du Jubilé semi séculaire du Doctorat de S. Exc. M. Fischer de Waldheim, Fondateur de la Société. Par le Second Secrétaire, Dr. Renard. Moscou, 1847. 8vo.—*From the same.*

A Copy of the same.—*From Charles Cramer.*

Twenty-seventh Report of the Council of the Leeds Philosophical and

- Literary Society, at the close of the Session, 1846-7. Leeds, 1847. 8vo.—*From the Society.*
- Reports of the Proceedings of the Geological and Polytechnic Society of the West Riding of Yorkshire. Seven Numbers, from 1840 to 1846. Leeds, 1847. 8vo.—*From the Society.*
- Bulletin de la Société de Géographie. Troisième Série. Tome VII. Paris, 1847. 8vo.—*From the Society.*
- Journal Asiatique. Quatrième Série. Tome X. Sept. 1847. Paris, 1847. 8vo.—*From the Society.*
- The Annals and Magazine of Natural History. Vol. XX. No. 135, and Supplement, No. 136. London, Dec. 1847. 8vo.—*From Sir William Jardine, Bart.*
- The British Almanac of the Society for the Diffusion of Useful Knowledge, for the Year 1848. London. 8vo.—*From Petty Vaughan, Esq.*
- Introductory Lecture, delivered to the Class of Institutes of Medicine in Jefferson College, November 4, 1847. By Robley Dunglison, M.D. Philadelphia, 1847. 8vo.—*From the Author.*
- Researches into the Comparative Structure of the Liver. By Joseph Leidy, M.D. Extracted from the American Journal of Medical Sciences. Philadelphia, 1848. 8vo.—*From the Author.*
- The Medical News and Library. Vol. VI. No. 62. Feb. 1848. 8vo.—*From Lea & Blanchard.*
- The Orbit of Neptune, computed by Sears C. Walker, A.A.S.; and Formulæ in the Theory of Neptune, by Benjamin Peirce, A.A.S. *From Dr. R. M. Patterson.*
- Proceedings of the Historical Society of Pennsylvania. Vol. I. No. 13. Dec. 1847. 8vo.—*From the Society.*

ADDITIONS TO THE LIBRARY BY PURCHASE.

- Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences. Tome XXV. Nos. 17 à 21. Oct. 25 à Nov. 25, 1847. Avec Tables des Matières du Tome XXV. 4to.
- Annales de Chimie et de Physique. Troisième Série. Tome XXI. Nov. et Dec. 1847. 8vo.
- London, Edinburgh and Dublin Philosophical Magazine, and Journal of Science. Third Series. No. 210, and Supplement, No. 211. December, 1847. 8vo.
- Astronomische Nachrichten. Nos. 616, 617, 619. Altona, Nov. 1847. 4to.

Mr. Lea announced the death of Prof. Lardner Vanuxem, a member of this Society, and accompanied the announcement with a brief notice of his life and scientific labours.

On motion of Dr. F. Bache, Mr. Lea was requested to prepare an obituary notice of Prof. Vanuxem.

The Committee on Finance made a report recommending the appropriations for the year, which were sanctioned by the Society.

Stated Meeting, February 18.

Present, sixteen members.

Dr. PATTERSON, Vice-President, in the Chair.

The following donations were announced:—

FOR THE LIBRARY.

Journal Asiatique. Quatrième Série. Tome X. No. 49. Oct. 1847. 8vo.—*From the Asiatic Society of Paris.*

Fragmens sur l'Uniformité à introduire dans les Notations Géographiques sur les Antiquités Américaines, et sur divers points de Géographie. Extrait du Bulletin de la Société de Géographie. Avril, 1847. 8vo.—*From M. Jomard.*

The African Repository and Colonial Journal. Vol. XXIV. No. 2. Feb. 1848. 8vo.—*From the American Colonization Society.*

Journal of the Franklin Institute. Vol. XLV. No. 266. Third Series. Vol. XV. No. 2. February, 1848. 8vo.—*From the Institute.*

Letter from the acting Secretary of the Treasury, communicating the Report of the Superintendent of the Coast Survey, showing the progress of that Work. Washington, 1847. 8vo.—*From Prof. A. D. Bache.*

Comstock's Phonetic Testament. The New Testament printed in Phonetic Characters. Philadelphia, 1848. 8vo. *From Dr. A. Comstock.*

Report on the Cypress Timber of Mississippi and Louisiana. By Montroville W. Dickeson, M.D. and Andrew Brown, A.M. Philadelphia, 1848. 8vo.—*From the Authors.*

ADDITIONS TO THE LIBRARY BY PURCHASE.

Annales de Chimie et de Physique. Troisième Série. Tome XXI.
Dec. 1847. 8vo.

Comptes Rendus de l'Académie des Sciences. Tome XXV. No.
22 à 25. Nov. 29 à Dec. 20, 1847. 4to.

Mr. Lea read an obituary notice of the late Professor Lardner Vanuxem.

The report of the Board of Officers was read.

New nominations from No. 203 to No. 221, inclusive, were read.

Stated Meeting, March 3.

Present, fourteen members.

Dr. BACHE, Vice-President, in the Chair.

The following donations were announced :—

FOR THE LIBRARY.

Memoirs of the Royal Astronomical Society. Vol. XVI. London,
1847. 4to.—*From the Society.*

Monthly Notices of the Royal Astronomical Society. Vol. VIII.
Nos. 1 and 2. 8vo.—*From the same.*

Transactions of the Linnean Society of London. Vol. XX. Part
2. London, 1847. 4to.—*From the Society.*

List of the Linnean Society of London, 1847. 4to.—*From the same.*

Proceedings of the Linnean Society of London. No. 30 to 33, in-
clusive. 8vo.—*From the same.*

Astronomical Observations, made at the Royal Observatory, Green-
wich, in the Year 1845 ; under the direction of George Biddell
Airey, Esq. London, 1847. 4to.—*From the Royal Society of
London.*

Annuaire Magnétique et Météorologique du Corps des Ingénieurs des
Mines de Russie, etc. Par A. T. Kupffer. Année 1844. Deux
Parties. St. Petersburg, 1846. 4to.—*From A. T. Kupffer,
Director of the Observatory.*

Annals and Magazine of Natural History, including Zoology, Botany, and Geology. Second Series. Vol. I. No. 1. January, 1848. 8vo.—*From Sir W. Jardine, Bart.*

Smithsonian Contributions to Knowledge: Occultations visible in the United States, during the year 1848. Philadelphia, 1848. 4to. *From the Smithsonian Institution.*

Proceedings of the American Academy of Arts and Sciences. From August 11, 1847, to January 4, 1848. 8vo.—*From the Academy.*

Letter from the Secretary of the Treasury, transmitting his Annual Report on the State of the Finances. Washington, Dec. 1847. 8vo.—*From Charles B. Trego.*

ADDITIONS TO THE LIBRARY BY PURCHASE.

Edinburgh New Philosophical Journal. No. 87. Oct. 1847, to Jan. 1848. 8vo.

London, Edinburgh and Dublin Philosophical Magazine. Third Series. No. 212. January, 1848. 8vo.

Astronomische Nachrichten. Nos. 618, 620 and 621. 4to.

Judge Kane announced the death of the Hon. John Quincy Adams, a member of this Society, at Washington, on 23d of February, in the 81st year of his age.

Dr. Patterson announced the death of Dr. Jacob Randolph, a member of this Society, on the 29th of February, in the fifty-second year of his age.

Pending nominations, from No. 203 to 221, and new nominations, No. 222 and 223, were read.

On motion of Mr. Frazer, permission was granted to Mr. Lea, to take a copy of his obituary notice of Prof. Vanuxem.

Stated Meeting, March 17.

Present, sixteen members.

Dr. BACHE, Vice-President, in the Chair.

Letters were announced and read:—

From Giuseppe Banchero, dated Genoa, 20th January, 1848, asking the Society to subscribe to a newspaper, a specimen of which accompanied the letter: and,—

From the American Antiquarian Society, dated Worcester, 8th March, 1848, acknowledging the receipt of Vol. X. Part 1, of the Transactions of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Palæontology of New York, Vol. I.: containing Descriptions of the Organic Remains of the Lower Division of the New York System. By James Hall, A.M., Palæontologist of the State of New York. Albany, 1847. 4to.—*From the Author.*

Medical News and Library. Vol. VII. No. 63. March, 1848.—*From Lea & Blanchard.*

Annual Report of the Trustees of the State Library of New York. Albany, 1848.—*From the New York State Library.*

Annual Catalogue of the Medical Department of the University of Louisville, Session of 1847–8.—*From Dr. Short.*

Message from the President of the United States to the two Houses of Congress, at the Commencement of the First Session of the Thirtieth Congress: together with the accompanying Documents. Washington, Dec. 7, 1847.—*From the Hon. J. R. Ingersoll.*

Smithsonian Contributions to Knowledge: Occultations visible in the United States during the Year 1848. 4to.—*From the Hon. G. M. Dallas.*

Address before the Historical Society of Pennsylvania, 28th January, 1848, on the occasion of opening the Hall in the Athenæum. By William B. Reed. Philadelphia, 1848.

Journal of the Franklin Institute. Vol. XLV. No. 267. Third Series. Vol. XV. No. 3. March, 1848.—*From the Institute.*

The African Repository and Colonial Journal. Vol. XXIV. No. 3. March, 1848.—*From the American Colonization Society.*

American Journal of Science and Arts. Conducted by B. Silliman, B. Silliman, jr., and James D. Dana. Vol. V. No. 14. March, 1848. New Haven, 1848.—*From the Editors.*

Mr. Trego was excused from preparing an obituary notice of the late Isaiah Lukens.

Judge Sergeant announced the death of the Hon. Henry Wheaton, a member of this Society, and accompanied the announcement with a sketch of his character and works.

Prof. Frazer announced the death of Dr. Thomas P. Jones, of Washington City, on the 11th inst., in the 75th year of his age.

Dr. Patterson briefly noticed the life and scientific labours of Dr. Jones.

Pending nominations, from No. 203 to No. 223, were read.

Stated Meeting, April 7.

Present, twenty-seven members.

Dr. CHAPMAN, President, in the Chair.

Letters were received and read:—

From the Royal Society of London, dated London, 10th December, 1847, acknowledging the receipt of Transactions and Proceedings of this Society:—

From the Imperial Society of Naturalists, of Moscow, dated Moscow, 9th May, 1846, accompanying a donation to this Society:—

From the Regents of the University of the State of New York, dated 16th March, 1848, acknowledging the receipt of the Transactions and Proceedings of this Society: and,—

From J. C. Adams, Esq., dated St. John's College, Cambridge, 4th March, 1848, acknowledging the receipt of notice of his election as a member of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Three Sheets of U. S. Coast Survey Maps.—*From A. D. Bache, through Hon. J. R. Ingersoll.*

- Littell's Living Age: containing a Reprint of the Report of the Trustees of the Massachusetts General Hospital; with a History of the Ether Discovery, and Dr. Morton's Memoir to the French Academy. No. 201. March 18, 1848.—*Anonymous.*
- The Encyclopædia of Chemistry, Theoretical and Practical. By James C. Booth and Martin H. Boyé. Nos. 2 to 10, inclusive.—*From J. C. Booth.*
- Horatii Tursellini Romani de Particulis Latinæ Orationis: Libellus utilissimus, post curas Jacobi Thomasii et Jo. Conradi Schwarzii denuo recognitus et auctus. Editio in Germania quinta. Lipsiæ, 1769.—*From James Hollahan.*
- Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. III. No. 12; with Title and Index to Vol. III. Also Vol. IV. No. 1.—*From the Academy.*
- Final Reports of the Building Committee and the Architect of the Girard College for Orphans. Philadelphia, 1848.—*From T. U. Walter, Esq.*
- The African Repository and Colonial Journal. April, 1848.—*From the American Colonization Society.*
- A Description of Active and Extinct Volcanos, of Earthquakes, and of Thermal Springs; with Remarks on the Causes of these Phenomena, the Character of their respective Products, and their Influence on the Past and Present Condition of the Globe. By Charles Daubeny, M.D., F.R.S. Second Edition. London, 1848.—*From the Author.*
- Observations made at the Magnetical and Meteorological Observatory at St. Helena. Printed by order of Her Majesty's Government, under the Superintendence of Lieut. Col. Edward Sabine. Vol. I. 1840-1-2-3. London, 1847.—*From the British Government.*
- Bulletin de la Société Impériale des Naturalistes de Moscou. Tome XVIII. No. 4. 1845; et Tome XIX. Nos. 1, 2, 3. 1846.—*From the Society.*
- Spicilegium Entomographia Rossicæ. Auctore G. Fischer de Waldheim. Moscow.—*From the same.*
- Philosophical Transactions of the Royal Society of London, for the Year 1847. Parts 1 and 2.—*From the Society.*
- Journal of the Royal Geographical Society of London. Vol. XVII. Part 2. 1847.—*From the Society.*
- Proceedings of the Royal Astronomical Society. Vol. VIII. No. 3. January, 1848.—*From the Society.*

Boletín de la Sociedad Económica de Amigos del País de Valencia.

Año 8°. Tomo 4°. Agosto, 1847.—*From the Society.*

Annals and Magazine of Natural History, including Zoology, Botany and Geology. Second Series. Vol. I. No. 2. Feb. 1848.—*From Sir Wm. Jardine, Bart.*

ADDITIONS TO THE LIBRARY BY PURCHASE.

London, Edinburgh, and Dublin Philosophical Magazine, and Journal of Science. Third Series. No. 213. Feb. 1848.

Astronomische Nachrichten. Nos. 622, 623, 624, and 625. Jan. 1848. Altona.

Dr. F. Bache announced the death of Mr. Nicholas Carlisle, of London, a member of this Society.

Prof. Frazer read the following letter from Prof. Peirce, of Cambridge, to Prof. Henry, of Washington.

I have just completed the perturbations of Uranus by Neptune, and am now certain that Neptune will account for these perturbations; so completely, indeed, as to show that the former theories were somewhat defective, for they did not satisfy the observation of 1690, which now appears to be as good as any other. The following table contains the residual differences between the theoretical and observed longitudes of Uranus, which are to be attributed to defects of theory or to errors of observation. I have also, for the purpose of comparison, copied from Leverrier and Adams their outstanding differences of the same kind, after the introduction of their hypothetical planets; and I have, moreover, added a final column from Leverrier of the residual perturbations which were originally to be accounted for, provided that orbit of Uranus is adopted which best coincides with modern observations. It will be perceived, from this table, that the motions of Uranus contain no indication of another external planet, or of any error in the mass of Saturn. Neptune stands, therefore, in direct opposition to the proposition, that no planet, placed at a less mean distance than 35 times the distance of the earth from the sun, can possibly account for the observed irregularities in the motion of Uranus to within 5'' of arc for modern observations, and 10'' for ancient ones. The table is computed from Walker's last elements of Neptune as a basis.

Residual Differences between the Theoretical and Observed Longitudes of Uranus, from the Theories of Peirce, Leverrier and Adams.

Date.	From Peirce's Theory of Neptune, adopting for its Mass,			From Lever- rier's origi- nal Theory, with his Hypotheti- cal Planet.	From Adams' Theory, with his Second Hy- pothetical Planet.	From Lever- rier's best Orbit for the Modern Ob- servations, without any external Planet.
	That given by Bond's Observ- ations of the Satellite. $\frac{1}{19840}$	That given by Bond's and Lassell's Observations combined. $\frac{1}{18780}$	Struve's Mass derived from his own Ob- servations of Satellite. $\frac{1}{1494}$			
1845	-0.9	-1.2	-2.8	-0.3		+6.5
1840	-1.1	-1.3	-1.3	+2.2	+1.3	+0.7
1835	+2.0	+2.4	+3.9	-0.8	-1.2	+4.5
1829	+0.8	+1.3	+2.5	-2.2	+2.0	-7.3
1824	-2.0	-1.9	-1.6	-5.4	+1.7	-7.6
1819	+1.0	+0.7	+0.9	+0.4	-2.2	+3.8
1813	-0.3	+1.1	-2.3	-0.9	-1.0	+4.5
1808	-0.4	-0.6	-1.3	+0.8	0.0	+3.8
1803	+0.8	+1.2	+3.2	+0.8	+1.6	+3.4
1797	+0.3	+0.8	+3.3	-1.0	-0.5	-6.7
1792	+0.3	+0.5	+1.6	+0.3	-1.1	-7.8
1787	-0.5	-1.2	-4.7	-1.2	-0.2	+2.0
1782	-3.0	-5.6	-18.3	+2.3	0.0	+20.5
Ancient.	1769	-6.0	-16.0	+3.7	+1.8	+123.3
	1756	+4.0	-12.7	-102.4	-4.0	+230.9
	1715	+8.7	+10.0	+5.5	-6.6	+279.6
	1690	+0.8	+13.0	-19.9	+50.0	+289.0

BENJAMIN PEIRCE.

Cambridge Observatory, March 23, 1848.

Prof. Frazer read the following extract from a letter addressed to him by Prof. S. S. Haldeman, of Columbia.

Columbia, Pa., 4th Sept. 1848.

Some time back I offered before the Philosophical Society an explanation of the apparent projection of a star during occultation, upon the disk of the moon, and the following experiment induces me to believe it essentially correct. Let a pair of disks, having nearly the same shade of colour, be placed so far from the eye as to render it impossible to tell their relative distance. Let the edge of one (*p*) representing the planet, to which the eye is chiefly directed, be made gradually to approach and to pass closely behind that representing the moon (*m*), when it will be found that the impression of *p* remains, while that of *m* envelopes it; that is, that the images become confluent, and for a short period coexistent; particularly when the

retina has become fatigued and surcharged with the two images by long attention. The principal attention being directed to *p*, its limb will appear to pass over that of *m*; whilst an equal attention to both will cause them to intersect like two translucent disks. This double intersection is not apparent when one of the bodies is very small, the light of the larger being suffused over the smaller, which, moreover, does not present sufficient area to allow the intersection of so small a portion of the larger limb to be observed. When the apparent diameter of *p* is not greater than that of the coexisting limbs, as when the experiment is performed with a small pin's head and a silver coin, it is evident that the greater part, if not the whole of the image, may coalesce with that of *m* upon the retina, producing the phenomenon in question.

I wish this experiment to be verified by other eyes than my own, especially as it has only succeeded with my near-sighted eye, at arm's length, during day-light. At about six feet distance, by lamp-light, and with two dimes, my son could not distinguish which one passed over the other; or rather he believed that the moving body (*p*) passed in front; but I did not allow more than one-tenth inch of intersection. A single person might perform the experiment by placing the disks upon one end of a strip of board, and so adjusting them, that by the motion of the board, the one should appear to the eye stationed at the other end, to pass over the other.

Pending nominations, from No. 203 to 223, inclusive, and new nomination, 224, were read.

Prof. Frazer, Reporter, laid upon the table No. 39, Vol. IV. of the Proceedings of the Society.

Stated Meeting, April 21.

Present, thirty-five members.

Dr. PATTERSON, Vice-President, in the Chair.

Letters were received and read:—

From the New York Historical Society, dated New York, 9th April, 1848, transmitting the Proceedings of the Society,

VOL. V.—C

and asking for some missing numbers of the Proceedings of this Society:—

From the New Jersey Historical Society, dated 11th April, 1848, acknowledging the receipt of Vol. X., Part 1, of the Transactions of this Society:—

From Mr. E. Geo. Squier, dated New York, 16th April, 1848, transmitting a donation: and,—

From Hon. Mahlon Dickerson, dated Suckasunny, N. J., 13th April, 1848, accompanying a donation towards defraying the expenses of publication of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Quarterly Journal of the Geological Society of London. No. 13. Feb. 1, 1848.—*From the Society.*

Proceedings of the Astronomical Society of London.—*From the Society.*

Annals and Magazine of Natural History, &c. Second Series. Vol. 1. No. 3. March, 1848.—*From Sir Wm. Jardine, Bart.*

Proceedings of the New York Historical Society, for the Year 1847; together with the Charter and By-laws of the Society.—*From the Society.*

Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. III. No. 10. July and August, 1847.—*From the Academy.*

Transactions of the College of Physicians of Philadelphia, from December, 1847, to March, 1848, inclusive.—*From the College of Physicians.*

Medical News and Library. Vol. VI. No. 64. April, 1848.—*From Lea & Blanchard.*

American Journal of the Medical Sciences. No. XXX. New Series. April, 1848.—*From Isaac Hays, M.D.*

A Descriptive Catalogue of the Anatomical Museum of the Boston Society for Medical Improvement. By J. B. S. Jackson, M.D.—*From the Society.*

Report of a Geological Exploration of part of Iowa, Wisconsin and Illinois, made under Instructions from the Secretary of the Treasury of the United States, in the Autumn of the Year 1839. By David Dale Owen, M.D.—*From the Hon. George M. Dallas.*

- On a new Genus and Species of Fossil Ruminantia; *Poebrotherium Wilsoni*: and, On some Bodies in the Boa Constrictor, resembling the Pacinian Corpuscles. By Joseph Leidy, M.D.—*From the Author.*
- Journal of the Franklin Institute. Third Series. Vol. XV. No. 4. April, 1848.—*From the Institute.*
- Observations on the Aboriginal Monuments of the Mississippi Valley; the Character of the Ancient Earthworks; and the Structure, Contents, and Purposes of the Mounds; with Notices of the Minor Remains of Ancient Art. By E. G. Squier.—*From the Author.*
- Report of the General Executive Committee of the City and County of Philadelphia, appointed by the Town Meeting of February 17, 1847, to provide means to relieve the Sufferings in Ireland.—*From the Committee.*
- A Call for Redress, to the enlightened and the just of the British Public, in a matter of Piracy committed on Dr. J. G. Flügel's English and German Dictionary. Second Edition. Leipsic, 1838. By the injured Author. Also, an Extra Impression of the Preface and Introduction to Dr. J. G. Flügel's Practical Dictionary. First Part. Leipsic and Hamburg, 1847.—*From Dr. J. G. Flügel.*
- Report to the Stockholders of the Dauphin and Susquehanna Coal Company. February, 1848.—*From Isaac Lea, Esq.*
- Mémoires de la Société Royale des Antiquaires du Nord. 1845—1847.—*From the Royal Society of Antiquaries of the North, Copenhagen.*
- Aperçu de l'Ancienne Géographie des Regions Arctiques de l'Amérique, selon les Rapports contenus dans les Sagas du Nord. Par Charles Christian Rafn. Copenhagen, 1847.—*From the Author.*
- Akstykker for største delen hidtil ntrykte til oplysning især af Danmarks indre Forhold i ældre tyd. Samlede og udgivne af Fyers Stifts Literaire Selskab. Odense, 1845.—*From the Literary Society of Funen.*
- Contemplations on the Solar System. By J. P. Nichol, LL.D.—*From the Author.*

ADDITIONS TO THE LIBRARY BY PURCHASE.

- The London, Edinburgh and Dublin Philosophical Magazine, and Journal of Science. Vol. XXXII. No. 214. March, 1848.
- Astronomische Nachrichten. Nos. 626 and 627; with Index to Vol. XXVI.

Dr. F. Bache, on the part of Dr. Wood, read an obituary notice of the late Dr. Beasley.

Dr. Emerson made a verbal communication relative to causes operative in changing the proportions of the sexes at birth.

He referred to a verbal statement formerly made by him, and noticed in the Bulletin (No. 34), upon the predominance of male births, which, in Philadelphia, was usually about 7 per cent. over that of females. Having been recently engaged in researches into the vital statistics of Philadelphia, and adding another decennial period, embracing from 1830 to 1840, he casually observed an interesting fact connected with the physiology of reproduction in the human race, namely, that the prevalence of epidemic cholera had exerted a very strong influence unfavourable to the conception of males. In 1833, the year succeeding that of the first cholera visitation, the ordinary excess of male births (7 per cent.) had been reduced to about one per cent. The amount of the yearly male excess, which was generally some hundreds, had sunk to only 38. An examination of the monthly returns of births in 1833, showed, that in the two which corresponded with the months of conception, when the cholera prevailed in 1832, the females greatly predominated over the males. Dr. E. stated, that on referring to the Paris registration of births for 1833, the year following the cholera, he found a similar reduction in the male excess.

Prof. Kendall presented the following table, containing the most recent results of the labours of Mr. Sears C. Walker in regard to the planet Neptune.

$$\begin{array}{lcl}
 \pi = 47^{\circ} 12' 6''.50 & \} & \text{m. eq. Jan. 1, 1847.} \\
 \Omega = 130 \quad 4 \quad 20.81 & \} & \\
 i = 1 \quad 46 \quad 58.97 & & \\
 e = 0.00871946 & & \\
 \mu = 21''.55448 & & \\
 M = 328^{\circ} 32' 44''.20 & \text{m. noon, Green. Jan. 1. 1847.} & \\
 T = 164 \frac{6181}{10000} & \text{trop. years.} &
 \end{array}$$

*Correction of the Ephemeris from Elements Second, after applying
Prof. Peirce's recent Values of the Perturbations in R. A. and
Dec.*

Date.	Obs.—Eph.	No. Obs.	Obs.—Eph.	No. Obs.
	R. A.		Dec.	
1795. May 8,	— 0.29	1	+ 0.79	1
9,	+ 1.18	1	+ .31	1
1846. Sept. 26,	— 0.21	160	+ .55	144
Oct. 4,	— .11	210	+ .54	188
12,	— .29	277	+ .64	244
20,	— .26	336	+ .60	293
28,	— .20	349	+ .53	304
Nov. 5,	— .11	343	+ .62	297
13,	— .04	317	+ .64	273
21,	+ .04	305	+ .70	258
29,	+ .08	272	+ .75	235
Dec. 7,	+ .34	209	+ .69	179
15,	+ .51	168	+ .84	148
23,	+ .60	132	+ .95	120
31,	+ .95	90	+ .92	80
1847. Jan. 8,	+ .79	63	+ .98	50
April 6,	+ .42	15	— .18	16
July 27,	— .49	53	+ .16	50
Aug. 4,	— .59	68	+ .14	65
12,	— .58	81	+ .15	75
20,	— .64	76	+ .19	71
28,	— .76	83	+ .40	76
Sept. 5,	— .61	76	+ .31	83
13,	— .58	76	+ .46	80
21,	— .71	61	+ .48	67
29,	— .73	50	+ .56	57
Oct. 7,	— .95	65	+ .58	57
15,	— .85	65	+ .76	67
23,	— .94	70	+ .92	61
31,	— .95	63	+ .87	65
Nov. 8,	— .96	46	+ .77	51
16,	— .74	53	+ .93	48
24,	— .56	45	+ .99	45
Dec. 2,	— .24	35	+ .89	30
10,	— .09	27	+ .72	22
18,	— .44	18	+ .89	18

The Society then proceeded to ballot for candidates for membership.

After which, the other business of the meeting having been disposed of, the ballot boxes were opened and examined, and

the following gentlemen declared to have been duly elected members of this Society:—

ROBERT C. GRIER, Judge U. S. Supreme Court.

SIMON GREENLEAF, Harvard University.

WILLIAM KENT, of New York.

WILLIAM L. STORRS, of Connecticut.

JOEL JONES, President of Girard College, Philadelphia.

JOHN REED, of Dickinson College, Carlisle.

ALEXANDER M. STEVENS, M.D., of New York.

HARMAR DENNY, of Pittsburg.

RALPH J. INGERSOLL, of Connecticut.

JOHN N. CONYNGHAM, of Luzerne County, Pa.

CHARLES PICOT, of Philadelphia.

E. GEDDINGS, M.D., of South Carolina.

CALDERON DE LA BARCA, of Washington.

F. A. POUCHET, of Rouen.

MIERS FISHER LONGSTRETH, of Philadelphia.

SAMUEL F. B. MORSE, of New York.



P R O C E E D I N G S
OF THE
A M E R I C A N P H I L O S O P H I C A L S O C I E T Y.

VOL. V. MAY—DECEMBER, 1848. No. 41.

Stated Meeting, May 5.

Present, thirteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Mr. Miers Fisher Longstreth, a newly elected member, was presented to the presiding officer, and took his seat.

Letters were received and read:—

From the Hon. R. C. Grier, dated Philadelphia, 22d April, 1848—Professor Charles Picot, dated Philadelphia, 22d April, 1848—Professor John Reed, dated Carlisle, 23d April, 1848—Alexander H. Stevens, M.D., dated New York, 24th April, 1848—Samuel F. B. Morse, Esq., dated New York, 24th April, 1848—Hon. John N. Conyngham, dated Wilkesbarre, 25th April, 1848—A. Calderon de la Barca, dated Washington, 27th April, 1848—Prof. Simon Greenleaf, dated Cambridge, Mass., 27th April, 1848, respectively acknowledging the receipt of notice of their election as members of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Report of the Committee on Naval Affairs, relative to Astronomical Observations; made to the House of Representatives of the United States, April 13, 1848.—*From the Hon. Joseph R. Ingersoll.*

Another copy of the same.—*From the Hon. George P. Marsh.*

Annals and Magazine of Natural History, including Zoology, Botany, and Geology. Second Series. Vol. I. No. 4. April, 1848.—*From Sir William Jardine, Bart.*

African Repository and Colonial Journal. Vol. XXIV. No. 5. May, 1848.—*From the American Colonization Society.*

Medical News and Library. Vol. VI. No. 65. May, 1848.—
From Lea & Blanchard.

An Address delivered at the opening of the Hall of the Newark Library Association, Feb. 21, 1848. By S. J. Prime.—*From the Newark Library Association.*

Pending nomination, No. 224, was read.

Stated Meeting, May 19.

Present, fifteen members.

Dr. CHAPMAN, President, in the Chair.

Prof. Charles Picot, a newly elected member, was presented to the presiding officer, and took his seat.

Letters were received and read:—

From the President of Georgetown College, Ky., dated Georgetown College, Ky., 28th February, 1848, asking a donation of the Transactions of the Society for the Library of the College:—

From the Proprietors of the Bowditch Library, acknowledging the receipt of Vol. X. Part 1, of the Transactions of this Society:—

From Harmar Denny, Esq., dated Pittsburg, 8th May, 1848, acknowledging the receipt of notice of his election as a member of this Society: and—

From Lieut. J. Melville Gilliss, U. S. N., dated Washington, 16th May, 1848, announcing the death of Dr. Nürnbergger, and offering to send to the Society the continuation of his work.

The following donations were announced:—

FOR THE LIBRARY.

Eulogy on the Life and Character of John Quincy Adams, delivered at the request of the Legislature of Massachusetts, in Faneuil Hall. By Edward Everett. Boston, 1848. 8vo.—*From the Author.*

American Journal of Science and Arts. Conducted by Prof. B. Silliman, B. Silliman, Jr., and James D. Dana. Second Series. Vol. V. No. 15. May, 1848. New Haven. 8vo.—*From the Editors.*

Twenty-ninth Annual Report and Documents of the New York Institution for the Instruction of the Deaf and Dumb, to the Legislature of New York, for the year 1847. New York, 1848. 8vo.—*From H. P. Peet, Esq., President.*

O Auxiliador da Industria Nacional. Periodico da Sociedade Auxiliadora da Industria Nacional, estabelecido no Rio de Janeiro. Nos. 5, —, —, 8, 9, 10, 11, for October, 1846, and January, February, March, and April, 1847. Rio de Janeiro, 1846–7. 8vo.—*From the Society.*

Memoir, Geographical, Political, and Commercial, on the Present State, Productive Resources, and Capabilities for Commerce of Siberia, Manchuria, and the Asiatic Islands of the Northern Pacific Ocean; and on the importance of opening commercial intercourse with those countries, &c. By Aaron H. Palmer. Printed by order of the Senate of the United States, March 8, 1848. Washington. 8vo.—*From the Hon. G. M. Dallas.*

The American Quarterly Register and Magazine. Conducted by James Stryker. Vol. I. No. 1. May, 1848. Philadelphia. 8vo.—*From Prof. Tucker.*

Journal of the Franklin Institute. Third Series. Vol. XV. No. 5. May, 1848. Philadelphia. 8vo.—*From the Institute.*

Dr. Patterson announced the death of the Rev. Ashbel Green, D.D., in the 86th year of his age, which event occurred this morning, at 6 o'clock.

On motion of Dr. Patterson, Dr. Miller, of Princeton, was requested to prepare an obituary notice of Dr. Green.

Pending nomination No. 224, and new nomination No. 225, were read.

On motion of Dr. F. Bache, the letter of the President of the Georgetown College, Ky., was referred to the Committee on Publications, with authority to take order thereon.

On motion of Prof. Frazer, the application made by Wm. B. Reed, Esq. on behalf of Mr. G. W. Greene, of Rhode Island, for permission to have an index made of the correspondence of Gen. Greene, in the possession of the Society, was granted, provided that the same should be done under the inspection of the Librarian.

Stated Meeting, June 16.

Present, sixteen members.

Dr. PATTERSON, Vice-President, in the Chair.

Letters were received and read:—

From Dr. Geddings, dated Charleston, S. C., 25th May, 1848, acknowledging the receipt of notice of his election as a member of this Society:—

From the Royal Society of Sciences of Copenhagen, dated Copenhagen, 20th April, 1847, acknowledging the receipt of Vol. IX. Part 2d, of the Transactions; of Vol. II. and III. of the Proceedings; of the Transactions of the Historical and Literary Committee, 1843; and of Dr. Dunglison's Public Discourse on Mr. Du Ponceau; and announcing a donation to the Society:—

From the Regents of the University of the State of New York, acknowledging the receipt of Vol. V. No. 40, of the Proceedings of the Society: and—

From P. A. Browne, Esq., dated Philadelphia, 10th June, 1848, announcing the formation of a Society for the Development of the Mineral Resources of the United States, and asking that they may be put upon the list of the correspondents of this Society.

On motion of Judge Kane, the society just named was placed on the list of correspondents of this Society.

The following donations were announced:—

FOR THE LIBRARY.

A Catalogue of those Stars in the *Histoire Celeste Française* of Jérôme de Lalande, for which tables of reduction to the epoch 1800 have been published by Prof. Schumacher. Reduced at the expense of the British Association for the Advancement of Science, under the immediate superintendence of the late Francis Baily, Esq. Printed at the expense of Her Majesty's Government. London, 1847. 8vo.—*From the British Association for the Advancement of Science.*

A Catalogue of 9766 Stars in the Southern Hemisphere, for the be-

ginning of the year 1750; from the observations of the Abbé de Lacaille, made at the Cape of Good Hope, in the years 1751 and 1752. Reduced at the expense of the British Association for the Advancement of Science, under the immediate superintendence of the late Professor Henderson, Director of the Royal Observatory, Edinburgh; and printed at the expense of Her Majesty's Government, under the direction of the late Francis Baily, Esq.; with a Preface by Sir J. F. W. Herschell. London, 1847. 8vo.—*From the same.*

Proceedings of the Royal Astronomical Society. Vol. VIII. No. 4. Feb. 11, 1848. London. 8vo.—*From the Society.*

Boletín de la Sociedad Económica de Amigos del País, de Valencia. Año 9°. Tomo 5°. Enero de 1848. Valencia, 1848. 4to.—*From the Economic Society of Valencia.*

Abhandlungen der Königlichen Gesellschaft der Wissenschaften zu Göttingen. Vol. III. 1845 to 1847. Göttingen, 1847. 8vo.—*From the Royal Society of Sciences of Göttingen.*

Nachrichten von der Georg Augusts Universität, und der Königlichen Gesellschaft der Wissenschaften zu Göttingen. For the years 1846 and 1847. 2 Vols. 8vo. Göttingen, 1846-7.—*From the same.*

Bemerkungen über Gyps und Karstenit. Von Joh. Friedr. Ludw. Hausmann. Göttingen, 1847. 4to.—*From Prof. Hausmann.*

The African Repository and Colonial Journal. Vol. XXIV. No. 6. June, 1848. Washington. 8vo.—*From the American Colonization Society.*

Medical News and Library. Vol. VI. No. 66. June, 1848.—*From Lea & Blanchard.*

Journal of the Proceedings of the Bishops, Clergy and Laity of the Protestant Episcopal Church in the United States of America, assembled in a General Convention, held in St. Andrew's Church, in the City of Philadelphia, from Oct. 2 to Oct. 23, 1844; with an Appendix, containing the Constitution and Canons, a List of the Clergy, &c. New York, 1844. 8vo.—*From James J. Barclay, Esq.*

Letters to the People of New Jersey on the Frauds, Extortions and Oppressions of the Rail-road Monopoly. By a Citizen of Burlington. Philadelphia, 1848. 8vo.—*Anonymous.*

Det Kongelige Danske Videnskabernes Selskabs Naturvidenskabelige og Mathematiske Afhandlinger. Vol. XII. Copenhagen, 1846. 4to.—*From the Royal Society of Copenhagen.*

Oversigt over det Kongelige Danske Videnskabernes Selskabs Forhandling, og dets Medlemmers Arbejder i Aaret 1846. Copenhagen, 1847. 8vo.—*From the same.*

Quæstiones a Societate Regia Danica Scientiarum, anno 1847, cum præmii promisso propositæ.—*From the same.*

An Investigation of the Theories of the Natural History of Man, by Lawrence, Prichard, and others, founded upon Animal Analogies: and an Outline of a New Natural History of Man, founded upon History, Anatomy, Physiology and Human Analogies. By Wm. F. Van Amringe. New York, 1848. 8vo.—*From the Author, through Dr. S. G. Morton.*

Pending nominations, Nos. 224 and 225, were read.

On motion of Mr. G. W. Smith, the use of the Hall of the Society was tendered to the Convention on the subject of Penal Reform, for the purpose of holding their meetings in.

Stated Meeting, July 21.

Present, eleven members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were received and read:—

From the Royal Institute of Sciences, Belles Lettres and Arts of the Low Countries, dated Amsterdam, 15th March, 1848, accompanying a donation to this Society:—

From the Royal Observatory of Edinburgh, dated Edinburgh, 14th December, 1847, acknowledging the receipt of Vol. IV. No. 39, and Vol. V. No. 40, of the Proceedings of this Society:—

From Prof. A. D. Bache, dated Washington, 12th June, 1848, on transmitting sheets of the Coast Survey Maps: and—

From Judge Jones, dated Girard College, July, 1848, acknowledging the receipt of notice of his election as a member of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Nieuwe Verhandelingen der Eerste Klasse van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone

- Kunsten te Amsterdam. Vol. XIII. Amsterdam, 1848. 4to.—
From the Royal Institute of the Netherlands.
- Tijdschrift voor de Wis-en Natuurkundige Wetenschappen, uitgegeven door de Eerste Klasse van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten. Vol. I. Nos. 1, 2, 3. Amsterdam, 1847–8. 8vo.—*From the same.*
- Report of the Acting Secretary of the Treasury, communicating a Report of the Register of the Treasury, of the Commerce and Navigation of the United States, for the year ending 30th June, 1847. Washington, Dec. 14, 1847. 8vo.—*From the Hon. Joseph R. Ingersoll.*
- A Sermon before the Churchmen's Missionary Association for Seamen of the Port of Philadelphia. By the Right Rev. Alonzo Potter, Bishop of the Diocese of Pennsylvania. Preached Sunday evening, February 20, 1848, in St. Andrew's Church. 8vo.—*From the Author.*
- Address of the Right Rev. Alonzo Potter, D.D., to the Sixty-Fourth Convention of the Protestant Episcopal Church in the Diocese of Pennsylvania. Delivered May 17, 1848. 8vo.—*From the Author.*
- Journal of the Franklin Institute of the State of Pennsylvania. Third Series. Vol. XV. No. 6. June, 1848.—*From the Franklin Institute.*
- Two Sheets of United States Coast Survey Maps. (Harbours of Edgartown, Black Rock and Bridgeport.)—*From A. D. Bache, Superintendent of Survey, through the Hon. J. R. Ingersoll.*
- Henry G. Bohn's Catalogue of Books. London, 1847.—*From the Publisher, H. G. Bohn.*
- Astronomical Observations made at the Royal Observatory, Edinburgh, by the late Thomas Henderson, Her Majesty's Astronomer for Scotland. Reduced and edited by his successor, Charles Piazzi Smyth, F.R.S.E., &c. Vol. VII. for 1841. Published by order of Her Majesty's Government. Edinburgh, 1848. 4to.—*From the Royal Observatory, Edinburgh.*
- Monthly Notices of the Royal Astronomical Society. Vol. VIII. Nos. 5, 6 and 7. March, April and May, 1848; with Index to Vol. VII.—*From the Royal Astronomical Society.*
- The Annals and Magazine of Natural History, including Zoology, Botany and Geology. Second Series. Vol. I. Nos. 5 and 6. May and June, 1848.—*From Sir William Jardine, Bart.*

Thoughts on the Principles of Taxation, with reference to a Property Tax, and its Exceptions. By Charles Babbage, Esq. London, 1848. 8vo.—*Anonymous.*

The American Journal of Science and Arts. Conducted by Professors Silliman and Dana. Second Series. Vol. VI. No. 16. July, 1848. New Haven. 8vo.—*From the Editors.*

Medical News and Library. Vol. VI. No. 67. July, 1848. 8vo.—*From Lea & Blanchard.*

The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. Vol. XXXI. New Series. July, 1848. 8vo.—*From the Editor.*

The African Repository and Colonial Journal. Vol. XXIV. No. 7. July, 1848.—*From the American Colonization Society.*

Quarterly Journal of the Geological Society. No. 14. May, 1848. London.—*From the Society.*

Dr. R. M. Patterson presented a communication from Mr. Charles M. Wetherill, entitled, "On the Neutral Sulphate of the Oxide of Ethyle and the Products of its Decomposition," which was referred to a Committee, consisting of Profs. Booth, F. Bache and Frazer.

There being no quorum present, the stated business of the meeting, the election of members, could not be proceeded with.

Pending nominations, Nos. 224 and 225, were read.

Stated Meeting, August 18.

Present, fifteen members.

A. D. BACHE, LL.D., Vice-President, in the Chair.

Letters were received and read:—

From the Literary and Philosophical Society of Manchester, dated 6th July, 1848; and from the Horticultural Society of London, dated 4th July, 1848, each acknowledging the receipt of Vol. X. Part 1, of the Transactions, and Nos. 39 and 40 of the Proceedings of this Society.

The following donations were announced :—

FOR THE LIBRARY.

- Fifteenth Annual Report of the Royal Cornwall Polytechnic Society.
1847. 8vo.—*From the Society.*
- Boletin de la Sociedad Economica de Amigos del Pais, de Valencia.
Año 9°. Tomo 5°. April, 1848. 8vo.—*From the Society.*
- Proceedings of the American Academy of Arts and Sciences. Vol.
I., from May, 1846, to May, 1848. Boston and Cambridge.
8vo.—*From the Academy.*
- Proceedings of the Academy of Natural Sciences of Philadelphia.
For May and June, 1848. 8vo.—*From the Academy.*
- Annual Report of the Regents of the University of the State of New
York, made to the Legislature, March 2, 1848. 8vo.—*From
the Regents of the University of New York.*
- Journal of the Franklin Institute. Third Series. Vol. XVI. No. 1.
July, 1848. 8vo.—*From the Institute.*
- The Medical News and Library. Vol. VI. No. 68. August, 1848.
8vo.—*From Messrs. Lea & Blanchard.*
- The African Repository and Colonial Journal. Vol. XXIX. No. 8.
August, 1848. 8vo.—*From the American Colonization So-
ciety.*
- An Address delivered at the laying of the Corner Stone of the House
of Refuge for Coloured Juvenile Delinquents, on Saturday, July 1,
1848. By James J. Barclay, A.M. 8vo.—*From the Author.*
- Messages of the President of the United States, with the Correspon-
dence therewith communicated, between the Secretary of War
and the Officers of the Government, on the subject of the Mexi-
can War. Washington, 1848. 8vo.—*From the Hon. J. R.
Ingersoll.*
- Report of the Board of Regents of the Smithsonian Institution, show-
ing the Operations, Expenditures and Condition of the Institution.
Washington, January 6, 1848. 8vo.—*From the Hon. G. M.
Dallas.*
- Memorial of D. L. Dix, praying a Grant of Land for the Relief and
Support of the Indigent Curable and Incurable Insane in the Uni-
ted States. Washington, June 27, 1848. 8vo.—*From the same.*

The following communication was received from Professor
Alexander, relative to some observations made by himself and
Dr. Philip Ten Eyck, Professor in the Albany Academy, on
the small eclipse of the sun, which occurred in March last.

Princeton, July 25, 1848.

My Dear Sir,—I had intended ere this to have sent to the American Philosophical Society, a minute of the observations made by Dr. Philip Ten Eyck, Professor in the Albany Academy, and myself, on the small eclipse of the sun, which occurred in March last.

The place of observation was a few rods N. E. of the Albany Academy, the position of which, according to the table in the American Almanac, is in Lat. $42^{\circ} 39' 3''$ N., Longitude $73^{\circ} 44' 49''$ W. of Greenwich.

The weather both before and after the eclipse was very changeable, and we, consequently, contented ourselves with an imperfect observation of the sun's transit on the day before, applying, afterward, corrections for rate, by a comparison of the patent lever watch, which we used, with a clock furnished with a compensation pendulum. These observations and reductions were made by Dr. Ten Eyck.

The beginning was lost by my having inadvertently taken the angle with the north pole for the angle with the vertical.

Indentation first perceived (in a small telescope) by Dr. Ten Eyck, at—

7h 37m 42s.4 mean time, civil reckoning.

8 4 5.4 indentation no longer certain.

4 18.4 indentation had certainly disappeared.

At 8h 1m 46s.4, or about $2\frac{1}{2}$ minutes before the end, I perceived an elevation or projection of the cusps beyond the natural outline of the remainder of the sun's disc. I was led to conclude that it could hardly be a mere optical deception, from the fact that it rather seemed to increase as the moon's disc seemingly slipped off, or separated from that of the sun, by a very oblique movement; and the same appearance was not noticed at a period equally near to the beginning.

The telescope which I used was from the manufactory of Uschneider & Fraunhofer. Eye-piece adjusted for direct vision; power 80; screen-glass red.

The projections were, it may be, rather more conspicuous than in the enclosed sketch, made after completing the observations, in which I was careful not to overrate the appearance.

I remain, dear sir, yours, very truly,

STEPHEN ALEXANDER.

A communication was received from Dr. John Locke, of Cincinnati, Ohio, on his "Gravity Escapement with Detached Detents," which was referred to a Committee, consisting of Mr. Downes, Prof. A. D. Bache, and Mr. Saxton.

Dr. Patterson laid before the Society specimens of two minerals from the diamond mines of Brazil, received through Mr. Ernest Pailhet, a merchant of Paris, now in Philadelphia, by whom they were first introduced into commerce.

One of these minerals occurs in irregular black lumps of considerable size, and is found in the diamond grounds one or two feet below the surface. It is considered a certain indication of the presence of diamonds, which, indeed, are sometimes found inside of its masses. Its structure is perfectly vitreous, and it appears to be a pure obsidian.

The other, called "Diamond Carbon," or "Black Diamond," is found in the same locality. It cuts all other minerals, including the diamond itself, upon which it acts with as much rapidity as the diamond dust. The specific gravity of the smaller piece is 3.01. These minerals first attracted attention at the diamond mines, about six years ago. The "Diamond Carbon" is sold here at 75 cents per carat of $3\frac{1}{6}$ grains troy, being about 25 cents per grain, or about six times the value of gold.

Dr. P. conceives that the "Diamond Carbon" will be found exceedingly useful in the arts, being applicable to all purposes for which diamond dust is now used.

Pending nominations, Nos. 224 and 225, were read.

Stated Meeting, September 15.

Present, twenty members.

Dr. PATTERSON, Vice-President, in the Chair.

Lieut. J. Melville Gilliss, U.S.N., a recently elected member, was presented to the presiding officer and took his seat.

A letter was received and read:—

From Prince Metternich, dated Vienna, February, 1847, announcing a donation to the Society:—

From the Geological Society of London, dated Somerset House, 15th June, 1848; and from the Linnean Society, dated Soho Square, London, 22d June, 1848, acknowledging the receipt of Vol. X. Part I. of the Transactions, and Nos. 36 to 39 of the Proceedings of this Society:—

From the Holland Academy of Sciences, at Harlem, dated Harlem, 29th July, 1848, announcing a donation to this Society: and—

From the Honourable, the Secretary of the Navy, dated Washington, 30th August, 1848, on the subject of the proposed astronomical observations for the parallax of the planets Venus and Mars.

The following donations were announced:—

FOR THE LIBRARY.

Journal of the Royal Geographical Society of London. Vol. XVIII. Part I. 1848.—*From the Society.*

Proceedings of the Linnean Society of London. Nos. 30 to 34. From June 2, 1846, to March 7, 1848.—*From the Society.*

Charter and By-Laws of the Linnean Society of London. 1848.—*From the same.*

Annals and Magazine of Natural History, including Zoology, Botany and Geology. Second Series. Vol. II. No. 7. July, 1848.—*From Sir William Jardine, Bart.*

Die Cephalopoden des Salzkammergutes, aus der Sammlung seiner Durchlaucht des Fürsten von Metternich. Ein Beitrag zur Palæontologie der Alpen. Von Franz Ritter von Hauer: Mit einem Vorworte von Wilhelm Haidinger.—*From Prince Metternich.*

Journal Asiatique. Tome X. No. 50, et Tome XI. Nos. 51 au 54. November, 1847, to May, 1848.—*From the Asiatic Society of Paris.*

Boston Journal of Natural History. Vol. V. No. 4.—*From the Boston Society of Natural History.*

Journal of the Franklin Institute. Third Series. Vol. XVI. No. 2. August, 1848.—*From the Institute.*

American Journal of Science and Arts. Conducted by Professors Silliman and Dana. Second Series. Vol. VIII. No. 17. Sept. 1848.—*From the Editors.*

Transactions of the Royal Irish Academy. Vol. XXI. Part 2.—
From the Royal Irish Academy.

The African Repository and Colonial Journal. Vol. XXIV. No. 9.
September, 1848.—*From the American Colonization Society.*

The Medical News and Library. Vol. VI. No. 69. Sept. 1848.—
From Lea & Blanchard.

Summary of the Transactions of the College of Physicians of Philadelphia. From April 4 to August 1, 1848, inclusive.—*From the College of Physicians.*

The Committee (Profs. Booth, F. Bache, and Frazer,) upon Dr. Charles M. Wetherill's paper "On the Neutral Sulphate of the Oxide of Ethyl and the Products of its Decomposition," reported, recommending its publication in the Transactions of the Society, and the publication was ordered accordingly.

Although neutral sulphate of oxide of ethyl, the true sulphuric ether, has been sought for in vain, and doubtless often formed, Dr. W. has first succeeded in isolating it, and studying its properties. It is prepared by slowly passing the vapours of anhydrous sulphuric acid into pure ether, surrounded by ice and salt; agitating the mixture with 1 volume ether and 4 volumes water, separating the two strata of liquids, agitating the ether solution with milk of lime, washing with water, and distilling off the ether. The oily liquid in the retort is transferred to a capsule, washed with a little water, and dried in vacuo over oil of vitriol. The aqueous solution contains sulphurous, ethionic, and sulphovinic acid, and if the temperature were not kept low, it contains, in addition, isethionic and methionic acids.

When pure, the neutral sulphate is a colourless oily liquid, of a pungent taste and peppermint odour, sp. gr. 1.12; distils with great difficulty, even in an atmosphere of carbonic acid; the distillate is colourless, neutral, and heavier than water. Chlorine is dissolved by it in the cold, without decomposition, giving a green colour, and the oil is again precipitated by water. A solution of potassa, saturated with sulphuretted hydrogen, changes it into mercaptan and sulphate of potassa; $C_4H_5O, SO_3 + KS, HS = C_4H_5S, HS + KO, SO_3$. It is soluble, unaltered in fuming nitric acid, but by adding potassa and heating, nitrous ether is formed (C_4H_5O, NO_3). Treated with muriatic acid and potassa, a heavy oil distils over, with an odour of apples. With water, the oil disappears entirely, leaving an acid solution. The carbon and hydrogen were determined by combus-

tion with oxide of copper, with chromate of lead, and with a mixture of oxide of copper and chlorate of potassa; the sulphuric acid by chloride of barium. The result was $C_4 H_5 O, SO_3$.

By the action of water, aided by heat, the oil entirely disappears, and if carbonate of baryta be added, and the filtered solution be evaporated, crystals of methionate of baryta separate, and the remainder of this salt is thrown down by alcohol. The methionate is proved by its properties and analysis. The mother liquor yields a salt, soluble in alcohol, which is shown to be an equal mixture of sulphovinate and isethionate of baryta, by analysis and behaviour. For sulphovinic acid is resolved, by boiling, into sulphuric acid and alcohol, while the latter is not. By determining the baryta in the mixture, boiling the acids, removing the free acid by carbonate of baryta, and determining the baryta in the last solution of isethionate, the weight of the former is about double that of the latter.

It follows, from these experiments, that the usual explanation of the formation of heavy oil of wine, previous to that of ethionic acid, is erroneous, for not the slightest trace of the heavy oil of wine is found in the substance resulting from the action of anhydrous sulphuric acid on ether or alcohol. The probable rationale is, that the anhydrous sulphuric acid partly forms directly the neutral sulphate of ether ($C_4 H_5 O, SO_3$), and partly decomposes the ether, forming Regnault's sulphate of olefiant gas ($4 SO_3, C_4 H_4$), which takes up 1 eq. water to form ethionic acid ($4 SO_3, C_4 H_5 O$). Another portion of the acid takes up water and unites with ether, producing sulphovinic acid ($C_4 H_5 O, 2 SO_3, HO$). In the case of alcohol, part of the sulphuric acid takes up water and unites with a portion of alcohol, forming hydrated sulphovinic acid, while the liberated ether partly forms the neutral sulphate and partly ethionic acid. The products of decomposition sufficiently distinguish the neutral sulphate from the heavy oil of wine. 4 eq. of the neutral sulphate with 3 eq. water, are first resolved into ethionic acid, and 3 eq. alcohol, and by the action of heat, into isethionic and sulphovinic acids and alcohol, as shown in the following equation. $4 (C_4 H O, SO_3) + 3 HO = C_4 H_5 O, 4 SO_3 + 3 (C_4 H_5 O, HO) = C_4 H_5 O, 2 SO_3 + C_4 H_5 O, HO, 2 SO_3 + 2 (C_4 H_5 O, HO)$.

Dr. F. Bache announced the death of Prof. J. J. Berzelius, at Stockholm, in the 69th year of his age.

Dr. Boyè exhibited to the Society a specimen of tea, artificially coloured, which had been handed to him for examination.

He was unable to detect any distinct colouring matter, and believes it to have been coloured by the dust of a superior kind of tea. The colour on the outside was a fine green, and exhibits a high lustre, but when this is scraped off, the colour in the inside is much darker. The colouring is done in China.

On motion of Prof. Frazer, Dr. Patterson, Mr. M'Culloh, and Prof. Kendall, were appointed a Committee, with power to confer with a Committee of the Academy of Arts and Sciences of Boston, and with Lieut. Gilliss, on the subjects referred to in the letter of the Secretary of the Navy, read this evening, and they were authorized to take such action upon the subject as they may deem expedient.

Stated Meeting, October 6.

Present, fifteen members.

DR. FRANKLIN BACHE, Vice-President, in the Chair.

A letter was received and read:—

From John M. Scott, Esq., dated Philadelphia, 15th September, 1848, resigning his membership in the Society, which resignation was accepted.

The following donations were announced:—

FOR THE LIBRARY.

Report of the Seventeenth Meeting of the British Association for the Advancement of Science, held at Oxford, in June, 1847.—*From the British Association.*

Annals and Magazine of Natural History, including, Zoology, Botany and Geology. Vol. II. Second Series. No. 8. August, 1848.—*From Sir William Jardine.*

Travaux de la Société d'Histoire Naturelle de l'Ile Maurice: du 6 Octobre, 1842, au 24 Aout, 1846.—*From the Natural History Society of Mauritius.*

Monograph of the Fossil Squalidæ of the United States. By Robert W. Gibbes, M.D., of Columbia, South Carolina.—*From the Author.*

Statistics of Coal. The Geographical and Geological Distribution of

Mineral Combustibles or Fossil Fuel; including, also, Notices and Localities of the various Mineral Bituminous Substances employed in the Arts and Manufactures: illustrated by Maps and Diagrams; embracing, from Official Reports of the great Coal producing countries, the respective amounts of their Production, Consumption and Commercial Distribution in all parts of the world; together with their Prices, Tariffs, Duties and International Regulations. Accompanied by nearly Four Hundred Statistical Tables, and Eleven Hundred Analyses of Mineral Combustibles, with incidental Statements of the Statistics of Iron Manufactures, derived from authentic Authorities. Prepared by Richard Cowling Taylor, Fellow of the Geological Society of London, Member of the American Philosophical Society, &c. &c.—*From the Author.*

First, Second and Third Annual Reports on the Geology of the State of Vermont. By C. B. Adams, State Geologist.—*From the Author.*

Ninth Geological Report to the Twenty-seventh General Assembly of the State of Tennessee, made in November, 1847. By G. Troost, M.D.—*From the Author.*

Report of the Secretary of War, communicating, in answer to a resolution of the Senate, a Report and Map of the examination of New Mexico, made by Lieutenant J. W. Abert, of the Topographical Corps.—*From Col. Abert.*

Annals of the Lyceum of Natural History of New York. Vol. IV. No. 12. September, 1848.—*From the Lyceum.*

Journal of the Franklin Institute. Third Series. Vol. XVI. No. 3. September, 1848.—*From the Institute.*

Review of an Address of the Joint Board of Directors of the Delaware and Raritan Canal, and Camden and Amboy Rail-road Companies, to the People of New Jersey. By a Citizen of Burlington.—*From Henry C. Carey, Esq.*

An Essay on the Philosophy of Medical Science. By Elisha Bartlett, M.D.—*From the Author.*

An Inquiry into the Degree of Certainty in Medicine, and into the Nature and Extent of its Power over Disease. By Elisha Bartlett, M.D.—*From the same.*

On the Distinctive Characters of *Cypræa Reticulata* of Martyn, and *Cypræa Histrio* of Meuschen. By John H. Redfield.—*From the Author.*

Descriptions of New Species of *Bullia* and *Marginella*, with Notes

upon G. B. Sowerby, Jr.'s Monograph of the latter Genus. By John H. Redfield.—*From the same.*

The Committee appointed, at the last meeting, to confer with a Committee of the Academy of Arts and Sciences of Boston, and with Lieut. Gilliss, on the subjects referred to in a letter from the Secretary of the Navy, read on the 15th of September, reported their action.

Pending nominations, Nos. 224 and 225, were read.

On motion, the South Carolina College was placed on the list of correspondents of this Society.

Special Meeting, October 13.

Present, sixteen members.

Dr. CHAPMAN, President, in the Chair.

The President stated that the Society had been called together to receive the award of the arbitrators in the matter in dispute between the Society and Mr. W. D. Lewis.

Which award having been read, together with a letter from the counsel of the Society, the Society adopted the resolutions presented to them by the Committee on Finance.

On motion of Judge Kane, the thanks of the Society were presented to Messrs. T. I. Wharton and H. J. Williams, who had officiated so assiduously and ably as counsel for the Society.

Stated Meeting, October 20.

Present, eleven members.

Dr. PATTERSON, Vice-President, in the Chair.

Letters were received and read:—

From the Royal Society of Sciences of Stockholm, dated Stockholm, 1st November, 1847, transmitting a donation to the Library, and announcing the receipt of Vol. IX. Part 2, of the

Transactions, and Nos. 32 to 37, inclusive, of the Proceedings of this Society: and—

From the Lyceum of Natural History of New York, acknowledging the receipt of Vol. IX. Part 3, and Vol. X. Part 1, of the Transactions, and Nos. 2—6 to 12, and 15 to 40, inclusive, of the Proceedings of the Society.

The following donations were announced:—

FOR THE LIBRARY.

Kongl. Vetenskaps-Akademiens Handlingar: 1845. Parts 1 and 2.—*From the Royal Academy of Sciences, Stockholm.*

Öfversigt af Kongl. Vetenskaps-Akademiens Förhandlingar. Årg. 3. Nos. 7, 8, 9, 10: 1846: and Årg. 4. Nos. 1 to 6, incl. 1847.—*From the same.*

Berättelse om Framstegen i Fysik, åren 1843, och 1844: afgifven till Kongl. Vetenskaps-Akademien. Af A. F. Svanberg och P. A. Siljeström.—*From the same.*

Årsberättelse om Zoologiens Framsteg under åren 1843 och 1844; till Kongl. Vetenskaps-Akademien; afgifven af Zoologiæ Intendenterna vid Rikets Naturhistoriska Museum. Första Delen (Anim. Vertebrata,) af C. J. Sundevall.—*From the same.*

Tal hållet vid Præsidii nedläggande uti Kongl. Vetenskaps-Akademien, den 7 April, 1841, af N. G. Sefström.—*From the same.*

Guide to Northern Archæology, by the Royal Society of Northern Antiquaries at Copenhagen. Edited for the use of English Readers, by the Right Hon. Earl of Ellesmere. London, 1848.—*From President Edward Everett.*

Reduction of the Observations of the Moon, made at the Royal Observatory, Greenwich, from 1750 to 1830. Computed by order of the Lords Commissioners of the Treasury, under the Superintendence of George Biddell Airy, Esq., M.A., Astronomer Royal. Vol. I. containing Investigation of Moon's Right Ascension: Vol. II. containing Investigation of Moon's North Polar Distance, and Comparison of Moon's Observed and Tabular Place.—*From the Royal Society, London.*

Magnetical and Meteorological Observations, made at the Royal Observatory, Greenwich, in the year 1845; under the direction of George Biddell Airy, Esq., M.A., Astronomer Royal. Published by order of the Board of Admiralty.—*From the same.*

Archæologia; or Miscellaneous Tracts relating to Antiquity. Pub-

lished by the Society of Antiquaries of London. Vol. XXXII.—
From the Society.

Quarterly Journal of the Geological Society. No. 15. August 1,
1848.—*From the Society.*

Monthly Notices of the Royal Astronomical Society. Vol. VIII.
No. 8. June 9, 1848.—*From the Society.*

Annals and Magazine of Natural History, including Zoology, Botany,
and Geology. Vol. II. No. 9. Sept. 1848.—*From Sir Wil-*
liam Jardine, Bart.

Journal of the Academy of Natural Sciences of Philadelphia. New
Series. Vol. I. Part 2.—*From the Academy.*

The American Journal of the Medical Sciences. Edited by Isaac
Hays, M.D. No. XXXII. New Series. Oct. 1848.—*From*
Dr. Isaac Hays.

The Medical News and Library. Vol. VI. No. 70. Oct. 1848.—
From Messrs. Lea & Blanchard.

The African Repository and Colonial Journal. Vol. XXIV. No. 10.
Oct. 1848.—*From the American Colonization Society.*

Mr. Geo. M. Justice exhibited to the Society a spy-glass,
made by Merz and Son, of Munich, which he conceived to be
superior in several respects to other instruments of equal mag-
nitude.

The superiority of the instrument he stated to consist in the great
perfection of the glasses, combining space-penetrating power, and dis-
tinctness of vision; although the object glass is only $1\frac{3}{4}$ inches in
diameter, and the focal length 31 inches. The tubes slide into each
other, as in the common spy-glass, thus reducing its length so as to
be entirely portable.

By the simple arrangement of a sliding eye-glass, an increased
magnifying power is obtained, which may be so graduated as to give
the force of a telescope carrying a magnifying power of about 40.
Thus, what is only a spy-glass, fitted for terrestrial purposes, may in-
stantly be converted into a telescope for celestial observations; the
collimation being preserved by marks on the tube. With this glass
all the familiar scenery of the moon is clearly defined, and so satis-
factory is it, that parts which have been considered tests of powerful
instruments are distinctly visible. Thus, on the sides and top of the
lunar range, known as the Appenines, the crater-form appearances
may be seen well defined. Some of the double stars are beautifully
separated; and clusters of stars are visible through this instrument

which others of much larger dimensions have heretofore been used to resolve. It thus affords to the amateur astronomer the advantage of a cheap, portable, and satisfactory instrument.

Their being no quorum present, the stated business of the meeting, the election of members, was necessarily postponed.

Pending nominations, Nos. 224 and 225, were read.

Dr. Patterson, chairman of the Committee on Finance, reported the minutes of the last meeting of the Committee.

Stated Meeting, November 3.

Present, thirteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

A letter was received and read:—

From the Royal Bavarian Academy of Sciences, dated Munich, 31st January, 1848, acknowledging the receipt of Vol. IV. No. 35, of the Proceedings, and Vol. IX. Part 3, of the Transactions of this Society, and announcing a donation to the Library.

The following donations were announced:—

FOR THE LIBRARY.

Gelehrte Anzeigen: Herausgegeben von Mitgliedern der Königlich Bayerischen Akademie der Wissenschaften. Vol. XXIV. January to June; and Vol. XXV. July to December, 1847. Munich, 1847. 4to.—*From the Royal Bavarian Academy of Sciences.*

Abhandlungen der Mathematisch Physikalischen Classe der Königlich Bayerischen Akademie der Wissenschaften. Vol. V. Part 1. Munich, 1847. 4to.—*From the same.*

Bulletin der Königl. Bayerischen Akademie der Wissenschaften: for the year 1847. Nos. 1 to 35, inclusive. Munich, 4to.—*From the same.*

Extra Impression of the Preface and Introduction to Dr. J. G. Flügel's Practical Dictionary of the English and German Languages. London, Leipzig, and Hamburg. 1848. 8vo.—*From the Author.*

Astronomical Observations made at the Radcliffe Observatory, Ox-

ford, in the year 1846. By Manuel J. Johnson, M.A., Radcliffe Observer. Vol. VII. Oxford, 1848. 8vo.—*From the Radcliffe Trustees.*

Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History; with a Catalogue of the same. Albany, 1848. 8vo.—*From the Regents of the University of the State of New York.*

Outline of the Constitutional History of New York: An Anniversary Discourse, delivered at the request of the New York Historical Society, in the City of New York, November 19, 1847. By Benjamin Franklin Butler. New York, 1848. 8vo.—*From the Author.*

Memoir, Geographical, Political, and Commercial, on the present State, Productions, Resources, and Capabilities for Commerce, of Siberia, Manchuria, and the Asiatic Islands of the Northern Pacific Ocean; and on the importance of opening commercial intercourse with those Countries. Addressed to His Excellency, James K. Polk, President of the United States. By Aaron H. Palmer. Printed by order of the Senate. Washington, 1848. 8vo.—*From A. H. Palmer, Esq.*

Journal of the Franklin Institute. Third Series. Vol. XVI. No. 4. October, 1848. Philadelphia. 8vo.—*From the Institute.*

The American Journal of Science and Arts. Second Series. No. 18. November, 1848. New Haven. 8vo.—*From the Editors.*

The African Repository and Colonial Journal. Vol. XXIV. No. 11. November, 1848. Washington. 8vo.—*From the American Colonization Society.*

Pending nominations, Nos. 224 and 225, were read.

Stated Meeting, November 17.

Present, fourteen members.

Dr. PATTERSON, Vice-President, in the Chair.

Letters were received and read:—

From the Royal Asiatic Society, dated London, 17th June, 1848, acknowledging the receipt of Vol. X. Part 1 of the Transactions, and Vol. IV. of the Proceedings of the Society: and—

From the Royal Academy of Belgium, dated Brussels, 20th August, 1848, announcing a donation to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Journal of the Royal Asiatic Society of Great Britain and Ireland.
Vol. IX. No. 18, and Vol. X. Part 3. London, 1847-8. 8vo.—
From the Royal Asiatic Society.

Memoirs of the Literary and Philosophical Society of Manchester.
Second Series. Vol. VIII. London, 1848. 8vo.—*From the
Literary and Philosophical Society of Manchester.*

Annals and Magazine of Natural History, including Zoology, Botany,
and Geology. Second Series. Vol. II. No. 10. London, 1848.
8vo.—*From Sir William Jardine, Bart.*

Q. D. B. V. Auctoritate et sub auspiciis Augustissimi ac Potentissimi Principis et Domini Friderici Gulielmi I. Electoris et Landgravii Hassiæ, Magni Ducis Fuldæ, &c. ad Novi Prorektoris Inaugurationem, die 10 Septembris, 1848, concelebrandam, invitat Prorektor Magistratu abiturus, Christianus Ludovicus Gerling, Phil. Doct. Math. Phys. atque astron. P. P. O. Inest commentatio inscripta. Nachricht von dem Mathematisch Physicalischen Institut der Universität Marburg. Marburg, 1848. 4to.—*From the Author.*

The Medical News and Library. Vol. VI. No. 71. November, 1848. 8vo.—*From Lea & Blanchard.*

The minutes of the Board of Officers were read.

Pending nominations, Nos. 224 and 225, were read.

Stated Meeting, December 1.

Present, seventeen members.

Dr. BACHE, Vice-President, in the Chair.

Letters were received and read:—

From the Royal Prussian Academy of Sciences, dated Berlin, 15th August, 1848, accompanying a donation to the Society:—

From Prof. Henry, Secretary of the Smithsonian Institution,

dated Washington, 17th November, 1848, accompanying a programme of organization of the Smithsonian Institution, and a circular of questions prepared in order to collect as accurate statistics as possible of the various public libraries of the United States; which, on motion, were referred to the Secretaries and Librarian to answer; and announcing a donation to the Library: and—

From Mr. Benjamin A. Gould, Jr., dated Cambridge, Mass., 24th November, 1848, in reference to certain works addressed to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Abhandlungen der Koniglichen Akademie der Wissenschaften zu Berlin; aus dem Jahre 1846. Berlin, 1848. 4to.—*From the Royal Academy of Sciences at Berlin.*

Monatsbericht der Akademie der Wissenschaften zu Berlin. July 1847, to June 1848, inclusive. Berlin, 1848. 8vo.—*From the same.*

Bulletin de la Société de Géographie. Troisième Série. Tome VIII. Paris, 1847. 8vo.—*From the Geographical Society of Paris.*

Journal Asiatique. Quatrième Série. Tome XI. No. 55, et Tome XII. No. 56. Juin et Juillet, 1848. Paris, 1848. 8vo.—*From the Asiatic Society of Paris.*

Monthly Notices of the Royal Astronomical Society. Vol. VIII. No. 9. Supplement. London, 1848. 8vo.—*From the Royal Astronomical Society of London.*

A Synopsis of the Commercial and Revenue System of the United States, as developed by Instructions and Decisions of the Treasury Department, for the Administration of the Revenue Laws; accompanied with a Supplement of Historical and Tabular Illustrations of the Origin, Organization, and Practical Operations of the Treasury Department, and its various Bureaus, in fulfilment of that System. By Robert Mayo, M.D. 2 Vols. 4to. Washington, 1847.—*From the Author.*

The Character and Labours of Linnæus. An Address delivered before the Linnean Association of Pennsylvania College, Gettysburg, Pa., at the Annual Commencement, September 20, 1848. By Henry S. Patterson, M.D., Professor of Materia Medica, &c.

in the Medical Department of Pennsylvania College, Philadelphia. Gettysburg, 1848. 8vo.—*From Professor Stoecker.*

Report on the Subject of International Exchanges. By Alexandre Vattemare. Washington, 1848. 8vo.—*From the Hon. John A. Dix.*

Journal of the Franklin Institute. Third Series. Vol. XVI. No. 5. November, 1848. Philadelphia. 8vo.—*From the Institute.*

Code of Ethics of the American Medical Association, adopted May, 1847. Philadelphia, 1848. 8vo.—*From Dr. Isaac Hays.*

The Treasurer presented his annual report, which was referred to the Committee on Finance.

The Committee on Publications made their annual report.

Pending nominations, Nos. 224 and 225, were read.

Stated Meeting, December 15.

Present, twenty-eight members.

Dr. PATTERSON, Vice-President, in the Chair.

Mr. Baker was introduced by Mr. McCulloh, as a member of a corresponding Society, and took his seat.

Letters were received and read:—

From the Imperial Academy of Sciences, dated St. Petersburg, 9th October, 1848, acknowledging the receipt of Vol. X. Part 1, of the Transactions, and the Proceedings of this Society, Vol. IV. Nos. 36 to 39, inclusive:—

From the American Academy of Arts and Sciences, dated Boston and Cambridge, 7th December, 1848, announcing a donation to this Society: and—

From the Literary and Philosophical Society of Manchester, dated Manchester, 17th October, 1848, acknowledging the receipt of Vol. V. No. 40, of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Stellarum Duplicium et Multiplicium Mensuræ Micrometricæ per magnum Fraunhoferi Tubum, annis a 1824 ad 1837, in Specula Dorpatensi institutæ; adjecta est Synopsis Observationum de

Stellis Compositis Dorpati, annis 1814 ad 1824, per minora instrumenta perfectarum. Auctore F. G. W. Struve, in Universitate Dorpatensi Astronomiæ Professore et Speculæ Directore, &c. &c. St. Petersburg, 1837. Folio.—*From the Imperial Academy of Sciences, St. Petersburg.*

Additamentum in F. G. W. Struve, Mensuras Micrometricas Stellarum Duplicium editas anno 1837, exhibens Mensuras Dorpati annis 1837 et 1838 institutas. Adjecta est Disquisitio de parallaxi annua stellæ *a* Lyræ. St. Petersburg, 1840. 4to.—*From the same.*

Catalogue de 514 Étoiles doubles et multiples, découvertes sur l'hémisphère céleste boréal, par la grande lunette de l'Observatoire Central de Poulkova; et Catalogue de 256 Étoiles doubles principales où la distance des composantes est de 32 secondes à 2 minutes, et qui se trouvent sur l'hémisphère boréal. Publié par l'Académie Impériale des Sciences. St. Petersburg, 1845. 4to. *From the same.*

Déscription de l'Observatoire Astronomique Central de Poulkova. Par F. G. W. Struve, Directeur de l'Observatoire. St. Petersburg, 1845. 2 Vols. 4to.—*From the same.*

Expédition Chronométrique exécutée par l'ordre de sa Majesté l'Empereur Nicholas 1er, entre Poulkova et Altona, pour la détermination de la Longitude Géographique relative de l'Observatoire Central de Russie. Rapports faits à l'Académie Impériale des Sciences de St. Petersburg. Par F. G. W. Struve, Membre de l'Académie. St. Petersburg, 1844. 4to.—*From the same.*

Astronomische Ortsbestimmungen in der Europäischen Türkei, in Kaukasien und Klein Asien, nach den von den Officieren des Kaiserlichen Generalstabes in den Jahren 1828 bis 1832 angestellten Astronomischen Beobachtungen: Abgeleitet und zusammengestellt von F. G. W. Struve. St. Petersburg, 1845. 4to. *From the same.*

Table des Positions Géographiques Principales de la Russie: Rédigée par M. W. Struve, Directeur de l'Observatoire Central de Poulkova. St. Petersburg, 1845. 4to.—*From the same.*

Librorum in Bibliotheca Speculæ Pulcovensis contentorum Catalogus Systematicus. Ex opere Descriptionis Speculæ, seorsim excudicuravit, indice alphabetico, et præfatione auxit F. G. W. Struve. St. Petersburg, 1845. 8vo.—*From the same.*

Catalogus Stellarum ex Zonis Regiomontanis: Positiones Mediæ Stellarum Fixarum in Zonis Regiomontanis a Besselio inter — 15°

et $+ 15^{\circ}$ declinationis observatarum, ad annum 1825, reductæ et in Catalogum ordinatæ: Auctore Maximiliano Weisse, Astron. Prof. et Direct. Speculæ Cracoviensis. Jussu Acad. Imp. Petrop. edi curavit et præfatus est F. G. W. Struve. St. Petersburg, 1846. 4to.—*From the same.*

Memoires de l'Académie Impériale des Sciences de St. Petersburg. Sciences Mathématiques et Physiques, Tome IV. 5 & 6 Livraisons: Tome V. 1 & 2 Livr. Sciences Naturelles, Tome VI. 1 & 2 Livr. Sciences Politiques, Tome VII. 4, 5 & 6 Livr. St. Petersburg, 1847-8. 4to.—*From the same.*

Recueil des Actes de la Séance Publique de l'Académie Impériale des Sciences de St. Petersburg, tenue le 29 Decembre, 1845: et Recueil des Actes de la Séance tenue 11 Janvier, 1847. 2 Vols. 4to. St. Petersburg, 1847.—*From the same.*

Memoirs of the American Academy of Arts and Sciences. New Series. Vol. III. Cambridge and Boston, 1848. 4to.—*From the American Academy of Arts and Sciences.*

The Medical News and Library. Vol. VII. No. 72. December, 1848. Philadelphia. 8vo.—*From Messrs. Lea & Blanchard.*

The African Repository and Colonial Journal. Vol. XXIV. No. 12. December, 1848. Washington. 8vo.—*From the American Colonization Society.*

List of Members and Correspondents of the Academy of Natural Sciences of Philadelphia. Philadelphia, 1848. 4to.—*From the Academy.*

Prof. Loomis read a portion of a sketch of the progress of Astronomical Science within the last few years, prepared for the Smithsonian Institution, at the request of Prof. Henry.

The communication gave rise to remarks from Dr. Patterson, Mr. Justice, Mr. Smith, and Mr. Roberts.

Mr. Wagner, from the Committee of Finance, made their annual report, recommending the annual appropriations; which on motion of Judge Kane, were agreed to.

Pending nominations, Nos. 224 and 225, were read.

P R O C E E D I N G S
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V. JANUARY—MARCH, 1849. No. 42.

Stated Meeting, January 5.

Present, twenty members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

The returns of the election for officers, held this day, were presented and read, when it appeared that the following gentlemen had been elected:—

President.

Dr. Robert M. Patterson.

Vice-Presidents.

Dr. Franklin Bache,
Alexander Dallas Bache,
John K. Kane.

Secretaries.

Dr. Robley Dunglison,
John F. Frazer,
Charles B. Trego,
E. Otis Kendall.

Members of the Council for Three Years.

Thomas Biddle,
Isaac Lea,
Hartman Kuhn,
Alfred L. Elwyn.

Curators.

Franklin Peale,
John Price Wetherill,
John C. Cresson.

Treasurer.

Benjamin W. Richards.

The President, upon taking the chair, expressed his thanks to the Society for the honour which they had done him in electing him to the office.

Letters were received and read:—

From the First Class of the Royal Institute of Sciences, Belles Lettres and Arts, of the Low Countries, dated Amsterdam, 11th October, 1848, announcing a donation to the Society:—

From the Secretary of the Society of Antiquaries, dated London, 17th November, 1848, acknowledging the receipt of Vol. X., New Series, Part I., of the Transactions, and of Vol. IV., Nos. 36, 37, 38, and 39, of the Proceedings of this Society: and,—

From Prof. A. D. Bache, Superintendent U. S. Coast Survey, dated Washington, 2d January, 1849, accompanying a copy of his Report on the Coast Survey for the past year, and asking the consideration, by the Society, “of the scientific character and results, of the practical results, and of the progress of the survey, and inviting any suggestions tending to improvement in the different departments of the work.”

Which letter was, on motion of Prof. Frazer, referred to a Committee, consisting of Dr. R. M. Patterson, Prof. Frazer, Prof. Kendall, Mr. Justice, and Judge Kane, with instructions to report at the next meeting of the Society.

The following donations were announced:—

FOR THE LIBRARY.

Verhandelingen der Eerste Klasse van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten te Amsterdam. 3e Reeks: 1en Deels: 1te Stuk. Amsterdam, 1848. 4to.—*From the Royal Netherlands Institute of Sciences, &c.*

Tijdschrift voor de Wis-en Natuurkundige Wetenschappen, uitgegeven door de Eerste Klasse van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten. Eerste Deel: 4e aflevering, and Tweede Deel, 1e and 2e aflevering. Amsterdam, 1848. 8vo.—*From the same.*

A Biographical Sketch of William Franklin, Governor from 1763 to 1776. By William A. Whitehead. Read before the New Jersey

Historical Society, September 27, 1848. 8vo.—*From the Author.*

Journal of the Franklin Institute. Third Series. Vol. XVI. No. 6. December, 1848. 8vo.—*From the Institute.*

The Slave Question: Letter from Henry C. Carey, Esq., to Nathan Appleton, Esq. January, 1849. 8vo.—*Anonymous.*

The Medical News and Library. Vol. VII. No. 73. January, 1849. Philadelphia. 8vo.—*From Messrs. Lea & Blanchard.*

Letter from the Secretary of the Treasury, transmitting the Report of the Superintendent of the Coast Survey. Presented to Congress, December 18, 1848. Washington, 1848.—*From Prof. A. D. Bache, Superintendent of U. S. Coast Survey.*

Map of Delaware River and Bay; executed under the Direction of the Coast Survey of the United States.—*From the same.*

Prof. Frazer read to the Society the following letter from Dr. Locke to Dr. Patterson, and exhibited a specimen of the record made by the clock alluded to.

Cincinnati, Dec. 30th, 1848.

DEAR DOCTOR,

Every inventor is apt to become enamoured of his productions, and not unfrequently obtrudes them unseasonably upon his friends. With this view before me, it is not without some hesitation, that I enclose to you a specimen of the performance of my telegraphic clock, which I have invented upon the suggestion and solicitation of our able friend, Sears C. Walker. You will see by the specimen, that the seconds are marked by lines about half an inch long. The minute zero is marked by the confluence of two lines, the break between two seconds being omitted. The five minute signal is a dash, three seconds long, occurring *after* the minute zero, but referring back to it. The hour signal is a similar dash, occurring several seconds *before* the minute zero, and referring also to it as the beginning of an hour. Observations are entered by breaking the circuit by means of a finger key, under the hand of the observer. They come in in such a manner as to indicate the exact fraction of the second, legible at least to hundredths. But one clock is needed, and this will register its time at any part of the circuit. Observers and keys may be stationed also at any point in the circuit, and they are able to enter their observations on all the registers included in the line. Thus we have a very faithful ubiquitary clerk, relieving the observer from every thing but looking at the stars, and thumbing down his keys.

As the punctum of the observation is at the commencement of the break, and that may occur in the midst of the little breaks between the seconds, and thus involve a small fraction of error, I have invented a key which will cause a measured break, say $\frac{3}{4}$ second long when either end of the break will be available, and if one is indefinite, the other will be measurable by scale and dividers. Bain, Steinheil, and Wheatstone, have invented telegraphic clocks; but, so far as I can learn, their object has been to make one clock drive others at the same rate on various points of the circuit.* The mechanical action interferes, too, with the pendulum. The invention of a clock, having nothing to disturb or obstruct the pendulum, or otherwise change its rate, and which shall register currently its time, and enter truly the observations in their exact place, in reference to time, is, so far as I know, new. The plan is certainly *original* with me, whether it be *new* or not. Atmospheric disturbance of the electrical current may, for a while, interfere with the action of my clock, but when that ceases, the clock will always strike in correctly and will recommence to register its minutes and seconds at their proper moment, according to the motions of the parent instrument. Not so with Bain's, which moves other clocks, for if the electricity be interrupted, the secondary clocks fall behind, and remain so.

Seconds: _____ 0

Seconds, and minute zero: _____

Five minute signal:

Minute zero. _____

Five minute signal. _____

Three Seconds. _____

Hour signal: _____

Hour signal. _____ Minute zero. _____

Four seconds. _____ Hour commences. _____

Observations: _____ Obs. _____ Obs. _____

I have communicated my invention, step by step, to Mr. Bache, who has written me a letter approbating the affair, though he says he does not know whether I am anticipated by any one. The use of this machine in determining longitude is obvious; for the interval on the fillet, between the breaks for a star transit at one meridian and

* It is easy to make a pendulum clock move another at a distance, by electro-magnetism, so long as the current passes well, but any atmospheric disturbance will put it out of time.

the same transit at another meridian, is the arc of difference of longitude registered in time.

Very sincerely, your friend,
JOHN LOCKE.

Pending nominations, Nos. 224 and 225, were read.

Stated Meeting, January 19.

Present, twenty members.

Dr. PATTERSON, President, in the Chair.

Letters were received and read:—

From the Directors of the Holland Society of Sciences, at Haarlem, dated Haarlem, 2d August, 1848, transmitting a donation to the Society:—

From the Regents of the University of the State of New York, dated Albany, 11th January, 1849, acknowledging the receipt of Vol. V. No. 41, of the Proceedings of this Society: and,—

From the Baroness Berzelius, dated Stockholm, 15th September, 1848, announcing the death of her husband on the 7th August, 1848, at the age of 69.

The following donations were announced:—

FOR THE LIBRARY.

Natuurkundige Verhandelingen van de Hollandsche Maatschappij der Wetenschappen te Haarlem. Tweede Verzameling: 5te Deel, 1e Stuk. Haarlem, 1848. 4to.—*From the Holland Society of Sciences at Haarlem.*

The American Journal of Science and Arts. Conducted by Professors Silliman and Dana. Second Series. No. 19. January, 1849. New Haven. 8vo.—*From the Editors.*

The American Journal of Medical Sciences. Edited by Isaac Hays, M.D. No. XXXIII. New Series. January, 1849. Philadelphia. 8vo.—*From Dr. Hays.*

The African Repository and Colonial Journal. Vol. XXV. No. 1. January, 1849. Washington. 8vo.—*From the American Colonization Society.*

Professor Dunglison's Introductory Lecture, delivered in Jefferson Medical College of Philadelphia, October 19, 1848. 8vo.—*From Dr. Dunglison.*

Report on the Finances of the Commonwealth of Pennsylvania, for the Year ending November 30, 1848. Made to the Governor by the Auditor General. Harrisburg. 8vo.—*From Thomas C. Steel, Esq., H. R.*

Report of W. Milnor Roberts, Esq., Civil Engineer, on the Survey of a Route to avoid the Schuylkill Inclined Plane on the Philadelphia and Columbia Rail-road. Authorized by the act of April 11, 1848. Harrisburg, 1848. 8vo.—*From B. Matthias, Esq., Senate.*

Chemical and Pharmaceutic Manipulations: A Manual of the Mechanical and Chemico-mechanical Operations of the Laboratory: Containing a complete description of the most improved apparatus, with instructions as to their application and management, both in manufacturing processes, and in the more exact details of analysis and accurate research. For the use of Chemists, Druggists, Teachers, and Students. By Campbell Morfit. Philadelphia, 1849. 8vo.—*From the Author.*

On motion of Judge Kane, the Secretary was directed to address a letter of condolence to the Baroness Berzelius, on the death of her distinguished husband.

The Committee appointed at the last meeting of the Society, on the subject of the communication from the Superintendent of the U. S. Coast Survey, reported as follows:—

The Committee, to which was referred a letter from Prof. Bache, Superintendent of the U. S. Coast Survey, asking the consideration, by the Society, of the scientific character and results, of the practical results, and of the progress of the survey, and inviting any suggestions tending to improvement in the different departments of the work, respectfully submit the following report.

In coming to their conclusions, they have necessarily assumed the correctness of the statements as to the progress and results of the survey made by the Superintendent in his Annual Reports to Congress. The Committee are not aware that any doubt has ever been expressed as to their correctness; and had they been questioned, it would have been impossible for the Committee to verify them. The question for their examination appeared to them, therefore, to be, not

whether these results have been attained, but whether, in a practical point of view, they justify the yearly expenditure authorized by Congress, and whether their scientific character is such as the means at the disposal of the Superintendent justify us in expecting, and such as is likely to meet the approbation of scientific men in our own and in other countries.

It cannot be a matter of surprise that the American Philosophical Society should undertake these inquiries, since, originally consulted by the government as to the propriety of instituting such a survey, and the manner in which it should be conducted, they have ever since, on all proper occasions, testified their interest in its efficient prosecution.

The object of such surveys as that which is now in progress along our sea-coast, is to determine with accuracy the position of every conspicuous fixed point within the limits of the survey. By which determination, and by the aid of the conventional marks for different objects, used in topographical drawing, an accurate representation may be made of the country surveyed, so that the relative position of any objects, their distance apart, the character of the country between them, and their elevation above the level of the sea, as well as the position and figure of shoals, the depth of water upon them, and the nature of the bottom, the direction and force of the currents, whether oceanic or tidal, the time of high and low tide, with its rise and fall in our principal ports, may be easily and precisely known.

There is scarcely a branch of physical science (chemistry alone excepted) to which such a survey is not in the highest degree useful; but its practical results are those of the most prominent importance. It permits the sailor, who comes for the first time upon our coast, to recognise with accuracy his position, and direct with precision his vessel to its port. It warns him of the dangerous shoals which lie in his path, and indicates to him the existence and strength of currents which may retard or assist his progress. And if he be surprised by a tempest, which jeopardis his safety, it guides him to a harbour of refuge, where he may await more favourable weather. It enables the government to select with certainty the best situations, both for works intended for the defence of the coast against hostile invasions, and for light-houses and buoys which are to serve as guides to our commerce; and, when extended inland, it indicates the best routes for internal communication, the obstacles to be overcome in its establishment, and the resources which the country presents for its maintenance. It may be truly said, that a government owes such

surveys as this to its citizens; and since they inure in the highest degree to the benefit of all; and since the means of accomplishing them are possessed by the government only, it is one of its most important duties to have such surveys executed in the most complete manner possible.

In our system of finance, the greater part of the revenue of the government is derived from the duties paid by our commerce; and the demand that a small portion of the immense wealth, which is thus annually poured into the treasury, should, for a few years, be expended in protecting the lives and property of those contributing, is so plainly just as to need no argument in its support. The actual receipts from customs, in the Treasury, for the fiscal year, ending on June 30, 1848, was \$31,757,070.95, and the estimated receipts for the next year, 32,000,000. The appropriation asked by the Superintendent for the Coast Survey, for the same year, is \$186,000; $\frac{1}{172}$ of the receipts, or 58 cents in the one hundred dollars. Nor is the policy, in a financial point of view, less evident. The Committee has found it impossible to get any definite information as to the average amount of dutiable goods yearly wrecked upon our coast; but the actual duties paid, in 1848, by five packet ships, in the port of Philadelphia, was \$243,942.15, or an average of \$48,788 each. A loss of duties, equivalent to those paid by four such ships, upon our coast, would amount to more than the estimates for the expenses of the survey for 1849. The value of one such ship and cargo would probably have defrayed all the expenses of the work for the two years, 1847 and 1848. The loss of time by ships compelled, for want of accurate charts, to await, far from the shore, the arrival of pilots, in place of running close into land, where they may be at all times found, and the higher rates of insurance against dangers, of which just enough is known to render them formidable, but not enough to permit them to be avoided, must also be added in the calculations of the pecuniary advantages of such a survey; while the continually recurring loss of life by shipwreck, and the immense amount of human suffering caused by the detention of crowded passenger-ships off our coast, especially in the winter season, form an item of which no estimate can be made in such a calculation.

If, then, our coast be peculiarly liable to such dangers as these, if it be dangerous in its character, and comparatively unknown, the duty of the government to make and publish such charts as shall give every possible facility and safety to our commerce cannot be denied. That this is the character of our coast is almost too well known to

need assertion ; but if proof be required, we have but to turn to the reports of the survey of the last few years to satisfy the most incredulous. Within that time, channels of vast importance to commerce, and before altogether unknown or unused, have been discovered in the harbour of New York and in the Delaware bay ; and six unknown and dangerous shoals have been discovered within the last year, lying in the direct track of the commerce between New York and Europe, as well as of the coasting trade between the former place and New England. Of the Delaware bay, until the recent publication of the maps of the Coast Survey, there was no chart upon which reliance could be placed. Some of the most dangerous shoals were placed from three to seven miles in error ; the light-house at Bombay Hook, a neighbourhood at one time noted for the number of vessels grounding there, was five miles out of place, and the mouth of the bay, between Capes May and Henlopen, was represented from 15 to 18 miles, when the survey shows it to be but eleven and a half. Yet, over this unknown and dangerous ground passed yearly, according to a report made to the government, about the year 1837, by Major Bache, of the Topographical Engineers, an insurable interest created by the coal trade alone, amounting to \$22,000,000 per annum, estimating merely the vessels in ballast coming after it, and the value of the vessel and cargo carrying it to the various ports at which it is wanted. Many of these vessels, however, instead of ballast, bring to Philadelphia cargoes of plaster, fish, lumber, salt, &c., the value of which is, of course, not included in the above estimates ; and it is well known that few of these vessels employ a pilot. To such an extent has this coal trade now increased, that while, in 1836, there cleared from Philadelphia 3225 vessels, carrying 344,812 tons, the number of clearances in 1846 was 8953, carrying 1,065,228 tons. Along the southern part of our country, the coast is, of course, still less accurately known, since it does not lie in the track of the extensive trade passing over the points which we have alluded to above. These few facts will be sufficient to show the pressing necessity which exists, that a coast so little known, and of so dangerous a character, from its exposure, and the number of its shoals, should be, as soon as possible, accurately and thoroughly explored.

In order to accomplish a work of such extent with the requisite precision, it is necessary to make available to its purposes all the refinements which mathematical and physical science have added to the art of measurement. The original base lines, which form the starting points of the survey, require to be measured by apparatus of

the most delicate nature, since any error, committed in this early part of the work, will necessarily be multiplied throughout the series of triangulations which rest upon it. The bases of verification require to be measured with the same degree of accuracy, as otherwise they could not serve as a check upon the calculated results. Nor is less precision necessary in the measurement of the angles of the primary and secondary triangulations, which serve as checks upon each other, since the position of any point in the former is determined by each of these series. And, again, at every important point the astronomical observations for latitude and longitude again control the results of the geodetic operations. In this way, although absolute accuracy can never be expected from human work, and especially from that which requires so many observations and calculations for its elaboration; yet the possible error is reduced to so small a quantity, that it may be, for all purposes of commerce and internal improvement, neglected. But to obtain these results the whole resources of science are requisite; and it is necessary that he to whom such a survey is entrusted, should have a thorough familiarity with what has heretofore been done in this regard by other nations, and should possess, besides, that degree of talent and profound science which will enable him to judge of the results of the eminent men who have preceded him, to select what is worthy of imitation in their processes, and improve upon that which is defective.

When, however, a survey of this kind is conducted with the requisite degree of precision, its results become incalculably useful, not only in a pecuniary point of view, to the government and citizens, but to the advancement of science, and, through it, of civilization and the general welfare of mankind; and there are, in many branches of science, problems not yet definitely solved, to the correct elucidation of which the observations of the Coast Survey will become available. Hence the cause of science, not less than that of self-interest and humanity, is involved in the proper conduct of such a survey; and, by its promotion, while we improve our commerce and relieve our seamen from a portion of the dangers to which they are exposed, we shall raise our national character, and justify our position among the great nations of the earth.

If, now, we attempt to compare our Coast Survey with similar works executed abroad, we shall find just cause of pride in the manner in which it has been conducted.

The regulation introduced by the present Superintendent, by which the field-work, at first computed by the party making it, is after-

wards subjected to a second calculation by others not connected with them, is such as to prevent the introduction of accidental errors, and to remove altogether the possibility of tampering with the observations. It therefore allows implicit confidence to be placed in the work.

The measurement of the more recently selected bases has been made by a new apparatus, contrived by the Superintendent for the purpose, (the description of which will be found in his Report for 1847, and in the Proceedings of this Society, Vol. IV. p. 368,) in which the arrangements for the support of the bars, compensation for temperature, accuracy of contact and delicacy of alignment, are such as; in the opinion of the Committee, leave nothing to be desired; while the apparatus is so simple, and so easily manipulated, as to allow of a rapidity of work which, it is believed, has never before been obtained. The measurements, by this instrument, are, of course, verified by the most severe and improved methods, and the agreement of the various measurements, some of which were made under circumstances peculiarly unfavourable, shows a degree of accuracy which has certainly never been surpassed. The application of the electric telegraph to the determination of differences of longitude, and the invention of a clock by which the time is accurately registered without the intervention of any assistant, at stations at any distance apart allows the correct difference of time between two places to be determined within a very small fraction of a second, and will give the means of getting the differences of longitude between our principal cities with a degree of accuracy which has only been obtained at the principal observatories of Europe, after many years of continued observation and comparisons.

Improvements upon the astronomical apparatus used, and careful experimental observations upon the relative efficiency of different forms of instruments, and different modes of observing, have led to great accuracy in the observations for the determination of latitudes, so that the places of the smaller stars, as given in the catalogues, are not now sufficiently precise for the work, and the positions of the stars used have to be determined by direct observations.

The arrangements for having the maps, after reduction, engraved in the office of the survey, under the immediate inspection of an assistant, and then, after two separate verifications, submitted to the Superintendent, before publication, are calculated to maintain the accuracy of the field-work upon the map issued, as far as that is possible.

The charts issued from the office bear the marks of the great

care which has been bestowed upon them; and, as specimens of topographic art, are not exceeded by any which the Committee have seen.

The same attention to insure accuracy is equally visible through the whole plan of organization and the details of the work; and the Committee can but repeat that, in their opinion, our Coast Survey will, in this respect, bear comparison with the best geodetic measurements of Europe. As to the efficiency and rapidity of progress of the work, it is not possible to make a minute comparison, since, in no other work of the kind, is there any annual report from which its progress may be judged of, nor, indeed, was there in the Coast Survey, until this feature was introduced by the present Superintendent. Nor can any statement of the number of square miles, accomplished in any year, give a fair standard of comparison between two surveys in different countries. The nature of the ground, the climate, and many other causes, operate so strongly to retard or to facilitate a work of this kind, that any parallel founded on them cannot but be fallacious. The Ordnance Survey of Great Britain was commenced in 1791, has been continued from that time, and is, we believe, not yet finished. Our own Coast Survey was actually commenced by the late Mr. Hassler, in 1817, discontinued from that time until 1832, when it was recommenced, and has been prosecuted continuously to the present time. The triangulation now extends, in a connected series, from Maine to Virginia, and has been commenced in North and South Carolina, Alabama, Mississippi, Louisiana and Texas. Since the work has been in charge of the present Superintendent, (that is, since 1844,) an area of 17,555 square miles has been triangulated; the topographical surveys, with the plane-table, have covered 2138 square miles, and embraced an extent of shore-line, roads, &c., of 7179 miles. The hydrography has covered an area of 20,086 square miles, of which 16,824 were principally off-shore, or deep-sea work. Twenty-two sheets of maps and charts have been published.

The plan adopted by the present Superintendent, by which the survey has been simultaneously started at different points of the coast, presents striking advantages in more than one point of view. It extends the benefits of the survey more speedily to all parts of the country, reduces the time necessary for the completion of the work, and, as the Superintendent has shown in his reports, diminishes the total expenditure necessary for it. The minute division of labour, and the specific instructions from the Superintendent to the various

parties, as to their duties, are well calculated to promote activity and increase the efficiency of the work, an end which will also be greatly assisted by the honourable and friendly rivalry which evidently exists between the civilians and the officers of the army and navy engaged on the work.

In fact, so much and such excellent work could not have been accomplished within so short a period, except by extraordinary energy on the part of the Superintendent, seconded by the cordial and zealous co-operation of all those under his charge; and the Annual Reports of the Survey indicate an amount of scientific talent and knowledge, as well as of energy and enterprise among the numerous assistants, which is highly honourable to our country.

The expense of conducting such a survey as this, must necessarily be great, though by no means so in reference to the advantages obtained from it. From the year 1844 to 1848, (the period during which it has been in the charge of the present Superintendent,) the appropriations to the Survey have amounted, in the aggregate, to \$622,000; and, if we add to this the estimate for 1849, we shall have a gross amount of \$808,000, as the cost of the Survey for six years. It is true, that the expenditure has been every year increasing, but it is equally so, that such increase has expedited the operations of the Survey in a still higher ratio, and has thus actually diminished its final cost. Thus, while in 1844, the cost of fifteen parties, (with less field-work in all the departments,) was \$100,000, in 1848, thirty effective parties had been kept in action for \$130,000; that is, an additional expense of 30 per cent., has doubled the efficiency of the Survey. In fact, so economical has been its management, that notwithstanding the far more elaborate work, and the much greater precision, the expense of the Survey is shown scarcely to exceed that of the Surveys of the public lands executed for the government. For the reasons before stated, and for others which will easily suggest themselves, it can scarcely be deemed fair to attempt a comparison of the cost of the Coast Survey with that of the Topographical Map of Great Britain; yet such a comparison may, perhaps, serve to defend our work from a charge of extravagance. The cost of the Ordnance Survey of Great Britain, from 1812 to 1848, is stated, by a writer in the London, Edinburgh and Dublin Philosophical Magazine for April, 1848, at £1,500,000, or about \$7,500,000. A survey of the city of Dublin, for municipal purposes, was stated in Parliament to have cost £200,000, or \$1,000,000; and it was, at the same time, stated that the surveys of the City of London, under the parochial assess-

ments' act, had already cost £300,000, or \$1,500,000 ; yet a new survey of this latter city is now in progress. With these data before us, and an attentive study of the estimates of the Superintendent, it is scarcely possible to doubt that the Coast Survey has been carried on with all possible economy, consistent with its efficient prosecution.

If it be asked, what results of a scientific or practical character have accrued, or are likely to accrue, from this vast work, a hasty glance at its progress will furnish an adequate answer.

Accurate charts have already been published of the Bay of New York, and of the Delaware Bay, and approaches of the City of Philadelphia, and of six other harbours ; and, of the former, one map upon a large scale, occupying six sheets, and another in one sheet, have been issued. Of some of these harbours, no maps of a trustworthy character were before in existence, and in all of them important corrections have been made, new channels indicated, unknown shoals pointed out, and the increase or decrease of the old ones marked : the soundings and nature of the bottom carefully noted, and every information given which can be of service to vessels desirous of entering.

The plan adopted by the present Superintendent, of publishing the results of the Survey as fast as the maps can be prepared, cannot be too highly approved. There can be no reason why, after the work, on a certain part of the coast, has been finished and verified, those who are to benefit by its results should be kept waiting until the whole of so vast a work as this can be completed : why the main trade of our principal cities with Europe should continue subject to the annual risk arising from insufficient maps, until the whole of the shores of the Gulf of Mexico have been surveyed.

The value of the publication of these maps has been materially enhanced, too, by the liberal policy of the government, in allowing them to be sold at such a low price as to put them within the reach of all who may require them. By this judicious course, their introduction in place of the insufficient and often treacherous guides which they are to replace will be much more rapid, and they themselves, being more widely disseminated, will be far more useful.

Another practical benefit, of incalculable importance, which we already owe to the efficient prosecution of the Coast Survey, is the discovery of dangerous and sunken rocks and shoals, before unknown, yet lying directly in the path of our principal trade. In addition to the discovery of a new channel into New York Bay, having two feet more water than the old channels ; of two new and impor-

tant channels into Delaware Bay, one of which is open when the old channels are choked with ice, and is thus invaluable, in the winter season, to our coasting trade; and of another on the coast of the State of Mississippi, the Coast Survey has already detected and published nine dangerous shoals in the vicinity of Nantucket, and numerous rocks in Long Island Sound and its vicinity. If these were the only practical benefits to be derived from it, they would more than repay all its expenditure. Obstructions of a similar character have been discovered in the Delaware and Chesapeake Bays, and doubtless many more will reward its labours upon the coast further southward.

The information derived from the Coast Survey has also been made useful in the determination of the proper sites for light-houses along our coast, and in assisting the local surveys which the authorities of the various seaboard towns desire to have made. And when, in the progress of civilization, the citizens of our different States shall feel the importance of following the excellent example set them by Massachusetts, and substituting true topographical maps of their territories for the fancy sketches which now bear that name, the results of the Coast Survey will be found of great utility to them in establishing their bases and verifying their work.

But, after all, the great practical utility of the work will be found in the publication of cheap and trustworthy maps, which, while they furnish valuable information to all, will be instrumental in diminishing that fearful loss of lives and property which annually takes place along our extensive and exposed coast.

When we turn to inquire what benefits to science have arisen, or are likely to arise, from the Coast Survey, under its present organization, their number and importance almost preclude an elaborate reply.

The first and most prominent point of scientific interest upon which its results will be brought to bear, will, of course, be the determination of the length of a degree of latitude, between different parallels, and from this, of the figure of the earth. A problem considered of such importance that surveys, more costly than that of our coast is likely to be, have more than once been undertaken by European nations, for the sole purpose of obtaining its solution. And France, with that honourable zeal which has placed her first in all matters of physical science, has sent parties of her ablest men to the most remote regions of the earth, to execute these measurements. As our Survey, when completed, will extend over about 20° of latitude, the opportunity of

controlling the results of former explorations will be most excellent, and most advantageous to science.

The vast number of astronomical observations of different kinds for the determination of latitudes and longitudes, extending from Galveston to the northernmost point of the coast of Maine, the experimental observations for the determination of the relative value of different instruments, and different methods of observing for the nice determination of celestial phenomena, and the elaborate discussions of the formulæ for reduction and correction of errors, by the able astronomers whom the Superintendent has engaged in these labours, must be of inappreciable importance to practical astronomy, for which we, as a nation, are already obtaining a high character.

The application of the electric telegraph to the determination of longitudes, and the invention of the self-registering clock, are improvements, the vast importance of which cannot be overlooked.

The development of the laws which govern the distribution of sediment at the bottom of the sea and along the coast, the microscopic examination of the various infusoria which live in them, and the establishment of safe data, from which any future elevation or depression of the land, however gradual in its progress, may be detected, will be found as important to the geologist as the results which we have just alluded to are to the astronomer; while the extensive and delicate magnetical observations, the study of the tidal and oceanic currents, and especially of that grand phenomenon, the Gulf Stream, cannot fail to furnish a vast body of the most carefully determined facts, capable of giving to the physical science of our country an impetus which it has never yet received: while the training of our officers of the army and navy to scientific observations, and, what is far more important, the education of a body of young men in the strictest school of modern experimental science, may be ranked among the most important advantages either in a practical or scientific point of view.

It is not to be expected that, confined to the examination of the results of the work as published, and without access to the official records, the Committee could make any suggestions likely to lead to any practical improvement in the conduct of the work. It is evident, from the results, that the superintendence of Prof. Bache is very active in this respect, and the members of the Society have been long enough associated with him to know that nothing in the way of improvement is likely to escape his notice or to meet his neglect. Your Committee, however, would respectfully call his attention to the fact,

that, if consistent with his duties and means, the early publication of the original observations, astronomical, magnetic, hydrographical and others, would be of vast service to the practical science of the country, and is anxiously hoped for by its cultivators.

In performance of their duty, the Committee have been compelled to confine themselves to an indication merely, of the most important conclusions to which their examinations have led them. To enlarge upon the points suggested can scarcely be necessary in a report to a scientific society, and would have occupied more time than their other pursuits would allow, or the Society would have at its disposal. But enough, they think, has been said to warrant them in relying upon the approbation of the Society in their conclusions:

1. That the Survey of the Coast is a work which, from its importance to our citizens, recommends itself in the strongest manner to the protection of the government.

2. That the benefits, both of a scientific and practical character, which have already been derived, and are constantly resulting from it, are such as to repay abundantly the labour and expense which have been, and may hereafter be devoted to it.

3. That it has heretofore been conducted accurately, efficiently, and economically, and that there is every reason to believe that it will best thrive by being left with its present organization.

4. And that, as well from the magnitude of the undertaking, as from the skill and energy with which it has been conducted, it will prove honourable to those who first conceived it, and to those who have been engaged in its prosecution.

The Committee, therefore, recommend to the Society the adoption of the following Resolution:

Resolved, That the American Philosophical Society recommend to the Superintendent of the United States Coast Survey, the publication, as speedily as shall be consistent with the interests of the Survey, of the observations upon which the published results are founded, and of all others made during its progress; as well as of the formulæ for computation and reduction, and the discussions of the elimination of errors from the observed results.

And the Committee respectfully ask to be discharged.

R. M. PATTERSON,
JOHN F. FRAZER,
E. OTIS KENDALL,
J. K. KANE.

The resolution was adopted by the Society, and the Committee was discharged.

Mr. Trego announced the death of Robert Gilmor, of Baltimore (a member of this Society), on the 30th November, 1848, in the 75th year of his age.

On motion of Mr. Fraley, Charles B. Trego, Esq., was re-appointed Librarian for the year.

The following named gentlemen were appointed on the Standing Committees of the Society:—

Committee of Finance.—Dr. R. M. Patterson, *Chairman*, Isaac Lea, Tobias Wagner.

Committee on the Hall.—Hon. J. K. Kane, *Chairman*, Frederick Fraley, Franklin Peale.

Committee on the Library.—Dr. Isaac Hays, *Chairman*, George Campbell, George Ord.

Committee of Publication.—Isaac Lea, *Chairman*, Dr. Isaac Hays, J. Francis Fisher.

The catalogue of surviving members of the Society was read, from which it appeared that the number on the list on the 1st January, 1849, was 363; of whom are resident in the United States, 252; and in foreign countries, 111.

The Society then proceeded to ballot for members.

New nominations, Nos. 226, 227, and 228, were read.

On motion of Judge Kane, a Committee, consisting of Judge Kane, Dr. Hays, and Mr. Richards, were appointed to take measures for procuring a portrait of the late President, Dr. Chapman, to be placed in the Hall of the Society.

The Reporter laid on the table Vol. V. No. 41, of the Proceedings of the Society.

All the other business of the Society having been disposed of, the ballot boxes were opened, and the state of the polls declared by the presiding officer.

The following named gentlemen were found to have been duly elected members of this Society:—

Prof. E. N. HORSFORD, of Harvard University.

Hon. GEORGE P. MARSH, of Vermont.

Stated Meeting, February 2.

Present, thirteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were received and read:—

From the Hon. George P. Marsh, dated House of Representatives, Washington, 22d January, 1849, acknowledging the receipt of notice of his election as a member of this Society: and,—

From the Geological Society of London, dated Somerset House, 2d November, 1848, acknowledging the receipt of Vol. V. No. 40, of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Annuaire Magnétique et Météorologique du Corps des Ingénieurs des Mines: ou Recueil des Observations Météorologiques et Magnétiques, faites dans l'étendue de l'Empire de Russie. Par A. T. Kupffer, Directeur des Observatoires Magnétiques des Mines, &c. Année 1845. Part 1 and 2. 2 Vols. 4to. St. Petersburg, 1848.
From the Author, Prof. Kupffer.

Résumés des Observations Météorologiques faites dans l'étendue de l'Empire de Russie, et déposées aux Archives Météorologiques de l'Académie des Sciences: publiés sous les auspices et aux frais de l'Académie des Sciences. Par A. T. Kupffer, Membre de l'Académie. 1er Cahier. St. Petersburg, 1846. 4to.—*From the same.*

Magnetical and Meteorological Observations made at the Royal Observatory, Greenwich, in the Year 1846; under the direction of George Biddell Airy, Esq., M. A., Astronomer Royal. Published by order of the Board of Admiralty, in obedience to Her Majesty's Command. London, 1848. 4to.—*From the Royal Society of London.*

Astronomical Observations made at the Royal Observatory, Greenwich, in the Year 1846; under the direction of George Biddell Airy, Esq., M. A., Astronomer Royal. Published by order of the Board of Admiralty, in obedience to Her Majesty's Command. London, 1848. 4to.—*From the same.*

- The British Almanac of the Society for the Diffusion of Useful Knowledge, for the Year of our Lord, 1849. London. 8vo.
From Petty Vaughan, Esq.
- Quarterly Journal of the Geological Society. No. 16. November 1, 1848. London. 8vo.—*From the Geological Society of London.*
- Monthly Notices of the Royal Astronomical Society. Vol. VIII. No. 9. Supplement. London. 8vo.—*From the Royal Astronomical Society.*
- The Annals and Magazine of Natural History, including Zoology, Botany, and Geology. Second Series. Vol. II. Nos. 11 and 12. November and December, 1848. London. 8vo.—*From Sir William Jardine, Bart.*
- A Stratigraphical Account of the Section from Atherfield to Rockenend, on the South-west Coast of the Isle of Wight. By William Henry Fitton, M.D., F.R.S., &c. London, 1847. 8vo.—*From the Author.*
- Smithsonian Contributions to Knowledge. Vol. I. Ancient Monuments of the Mississippi Valley; comprising the results of original extensive Surveys and Explorations. By E. G. Squier, A.M. and E. H. Davis, M.D. Washington, 1848. 4to.—*From the Smithsonian Institution.*
- Journal of the Franklin Institute. Third Series. Vol. XVII. No. 1. January, 1849. Philadelphia. 8vo.—*From the Institute.*
- Map of the Battle Ground of Cerro Gordo, from Surveys made by Major Turnbull and Capt. McClellan, of the Topographical Engineers.—*From Hon. Joseph R. Ingersoll.*
- The Pennsylvania Journal of Prison Discipline and Philanthropy. Published under the direction of the "Philadelphia Society for Alleviating the Miseries of Public Prisons," instituted in 1787. Vol. IV. No. 1. January, 1849. Philadelphia. 8vo.—*From the Prison Society.*
- Letter of the Secretary of the Treasury, communicating a Report by the Superintendent of the Coast Survey, on an application of the Galvanic Circuit to an Astronomical Clock and Telegraph Register, in determining local differences of Longitude, and in astronomical observations generally. Washington, January, 1849. 8vo.—*From Sears C. Walker, Esq.*
- Fifteenth Annual Report of the Superintendent of Common Schools of Pennsylvania, for the School Year ending June 1, 1848. By Townsend Haines, Superintendent. Harrisburg, 1849. 8vo.—*From Thomas C. Steel, Esq., H. R.*

Mr. Justice stated, that upon recently examining the object glass of the telescope at the Friends' School in Cherry street, he found it much impaired by an apparent oxidation of the surface, which was, however, easily removed by wiping it with sheep-skin; and he believed, that by early attention in this way, many valuable glasses might be kept in order by a timely removal of the arborescent substance on the surface.

Further observations on the subject of the changes of the surface of glass were made by Mr. M'Culloh, Dr. F. Bache, Dr. Elwyn, and Judge Kane.

Mr. Richards gave an account of a singular *lusus naturæ*, in the form of a calf having two heads, four distinct eyes, two mouths, each capable of receiving sustenance, and with but two ears. This monster was produced by a cow in New Jersey, about 35 miles from this city.

Mr. M'Culloh mentioned a series of experiments which he has been conducting under the superintendence of Prof. A. D. Bache for the U. S. Government, in reference to a proper collection of the revenue on distilled spirits, of which the results will shortly be presented to the Secretary of the Treasury.

A letter from Lieut. J. M. Gilliss was read, enclosing a letter from Dr. G. A. Jahn, of Leipsic, acknowledging the receipt of notice of his election as a member of this Society; and a communication in Latin from Dr. Jahn, which, on motion of Judge Kane, was referred to a Committee, consisting of Prof. S. Alexander, Mr. James, and Prof. Kendall.

Pending nominations, Nos. 226, 227, and 228, were read.

Judge Kane referred to the report and resolution presented at the last meeting, in relation to the letter of the Superintendent of the Coast Survey, and called the attention of the Society to the resolution, stating that the views of the Society, as therein expressed, seemed not to have been correctly apprehended at Washington, and suggesting that a further expression on the part of this Society might be expedient and proper: he therefore offered the following resolution, which was agreed to:—

Resolved, That the Society do approve and adopt the deduction set forth in the report made at the last meeting, by the Committee to

which was referred a letter from the Superintendent of the U. S. Coast Survey, to wit:

1. That the survey of the coast is a work, which, from its importance to our citizens, recommends itself in the strongest manner to the protection of the government.

2. That the benefits, both of a scientific and practical character, which have already been derived, and are constantly resulting from it, are such as to repay abundantly the labour and expense which have been and may hereafter be devoted to it.

3. That it has heretofore been conducted accurately, efficiently, and economically, and that there is every reason to believe that it will best thrive by being left with its present organization.

4. And that, as well from the magnitude of the undertaking, as from the skill and energy with which it has been conducted, it will prove honourable to those who first conceived it, and to those who have been engaged in its prosecution.

Stated Meeting, February 16.

Present, eleven members.

Dr. PATTERSON, President, in the Chair.

Letters were received and read:—

From Prof. E. N. Horsford, dated Cambridge, Feb. 2, 1849, acknowledging the receipt of notice of his election as a member of this Society: and—

From the Franklin Institute, dated Philadelphia, 18th January, 1849, acknowledging the receipt of Vol V. No. 41, of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Monograph of the Fossil Squalidæ of the United States. By Robert W. Gibbs, M.D. of Columbia, S. C. No. 2. Reprinted from the Journal of the Academy of Natural Sciences of Philadelphia, January, 1849. 4to.—*From the Author.*

The Medical News and Library. Vol. VII. No. 74. February, 1849. 8vo.—*From Lea & Blanchard.*

- Journal of the Franklin Institute. Third Series. Vol. XVII. No. 2. February, 1849. 8vo.—*From the Institute.*
- Twenty-eighth Report of the Council of the Leeds Philosophical and Literary Society, at the close of the Session, 1847–8. Leeds, 1848. 8vo.—*From the Society.*
- Reports of the Proceedings of the Geological and Polytechnic Society of the West Riding of Yorkshire, 1847. Leeds, 1848. 8vo.—*From the Society.*
- Collections of the New Jersey Historical Society. Vol. III. 1849. 8vo.—*From the Society.*
- The African Repository and Colonial Journal. Vol. XXV. No. 2. February, 1849.—*From the American Colonization Society.*
- Experimental Researches on the Post Mortem Contractility of the Muscles, with observations on the Reflex Theory. By Bennet Dowler, M.D. New York, 1846. 8vo.—*From the Author, through S. G. Morton, M.D.*
- Criticisms and Controversies relating to the Nervous and Muscular Systems. By Bennet Dowler, M.D. of New Orleans. New Orleans, 1847. 8vo.—*From the same.*
- Researches on Meteorology. By Bennet Dowler, M.D. New Orleans, 1848. 8vo.—*From the same.*
- Researches, Critical and Experimental, on the Capillary Circulation. By Bennet Dowler, M.D. of New Orleans. New Orleans, 1849. 8vo.—*From the same.*
- Monthly Notices of the Royal Astronomical Society. Vol. IX. No. 1. Nov. 10, 1848. 8vo.—*From the Society.*
- Report on the Geology of South Carolina. By M. Tuomey. Columbia, S. C. 1848. 4to.—*From the State of South Carolina.*
- Summary of the Transactions of the College of Physicians of Philadelphia, from September 6th, 1848, to January 2d, 1849, inclusive. 8vo.—*From the College of Physicians.*
- Catalogue of the Library of the Historical Society of Pennsylvania. Part I. History, Biography and Manuscripts. 1849. 8vo.—*From the Society.*
- Letter of Professor A. D. Bache, Superintendent of Weights, Measures and Balances, transmitting a Second Report on Inquiries and Researches relating to Hydrometers, &c., made under his superintendence, by Prof. R. S. M'Culloh, May 29, 1848.—*From Prof. R. S. M'Culloh.*
- Reply to the Review by Mr. Avequin, of New Orleans, of M'Culloh's Report on Sugar. Published in De Bow's Commercial Review. Philadelphia, 1848.—*From the same.*

The Committee, to which was referred, at the last meeting, a communication from Dr. Jahn, of Leipsic, entitled "De Calculo Eclipsium Besseliano Commentatio," made report thereon, recommending its publication in the Transactions of the Society: which publication was accordingly ordered.

Dr. Hays announced the decease of Dr. James Cowles Prichard, of Bristol, England, a member of this Society, who died 22d December, 1848, in the 62d year of his age.

The minutes of the last meeting of the Board of Officers and Council were reported.

Pending nominations, Nos. 226, 227 and 228, were read.

Dr. Elwyn mentioned a small instrument recently constructed by Peter A. Browne, Esq., called a Trichometer, for the purpose of testing the strength of hair, wool, and other fibrous materials; which promises to be practically useful in investigations relating to subjects of this nature.

Stated Meeting, March 2.

Present, five members.

Dr. PATTERSON, President, in the Chair.

A letter was received and read:—

From George W. Greene, dated Providence, February 26, 1849, requesting permission to have copies taken of the "General Greene Correspondence," in the Library of the Society:

Whereupon, upon motion of Dr. Elwyn, it was agreed that Mr. Greene have permission to procure copies of said correspondence, provided the same be made under the superintendence and direction of the librarian.

FOR THE LIBRARY.

Western America, including California and Oregon; with Maps of those Regions, and of the Sacramento Valley, from actual surveys. By Charles Wilkes, U. S. N. Philadelphia, 1849. 8vo.
From the Author.

Report of the Pennsylvania Hospital for the Insane, for the year 1848. By Thomas S. Kirkbride, M.D. Physician to the Institution. Philadelphia, 1849. 8vo.—*From the Author.*

Speech of Mr. J. A. Pearce, of Maryland, on the subject of the Coast Survey of the United States. Delivered in the Senate of the United States, on Saturday, Feb. 17, 1849. Washington, 1849. 8vo.—*From the Hon. J. A. Pearce.*

Pending nominations, Nos. 226, 227 and 228, were read.

Stated Meeting, March 16.

Dr. PATTERSON, President, in the Chair.

Present, seventeen members.

Prof. Agassiz, a member of this Society, was introduced, and took his seat.

A letter was received and read:—

From A. D. Bache, Superintendent U. S. Coast Survey, announcing the transmission to this Society of certain Maps, executed under the direction of the Survey.

The following donations were announced:—

FOR THE LIBRARY.

Second Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History; with Catalogues of the same: Made to the Senate, January 12, 1849. Albany. 8vo.—*From the Regents of the University of the State of New York.*

Three Maps of Delaware River and Bay, one of Nantucket Harbour, and one of the Harbours of Cawkins and Sheffield Islands. —*From the Superintendent of the U. S. Coast Survey, through the Hon. J. R. Ingersoll.*

Report of the Committee of Congress to whom was referred the Memorial of William T. G. Morton, asking Compensation from Congress for the Discovery of the Anæsthetic or Pain-subduing Property of Sulphuric Ether. Made to the House of Representatives, Feb. 23, 1849.—*From the Hon. M. C. D.*

The American Journal of Science and Arts. Conducted by Professors B. Silliman and B. Silliman, Jr. and James D. Dana. Second Series, No. 20, March, 1849. New Haven. 8vo.—*From the Editors.*

The African Repository and Colonial Journal. Vol. XXV. No. 3.

March, 1849. Washington. 8vo.—*From the American Colonization Society.*

Journal of the Franklin Institute. Third Series. Vol. XVII. No. 3.

March, 1849. Philadelphia. 8vo.—*From the Institute.*

The Medical News and Library. Vol. VIII. No. 75. March, 1849. Philadelphia. 8vo.—*From Lea & Blanchard.*

An Inquiry into the alleged tendency of the Separation of Convicts, one from the other, to produce Disease and Derangement. By a Citizen of Pennsylvania. Philadelphia, 1849. 8vo.—*From the Philadelphia Society for the Alleviation of the Miseries of Public Prisons.*

Annals and Magazine of Natural History, including Zoology, Botany, and Geology. Vol. III. No. 13. January, 1849. London. 8vo.—*From Sir William Jardine, Bart.*

Dr. Patterson, in the name of Prof. A. D. Bache, laid before the Society, an abstract of a report, made by Mr. Sears C. Walker, of the results of the telegraphic operations of the U. S. Coast Survey, made by him on the 23d January last, between Washington and Philadelphia, New York and Cambridge, Mass. A letter from Prof. Bache to Dr. Patterson, accompanying the report, was read by Prof. Kendall.

Washington, March 1, 1849.

DEAR SIR,—Will you please communicate to the American Philosophical Society a brief abstract of a Report made to me on the 21st ultimo, of the results of the Telegraph operations of the U. S. Coast Survey, made on the 23d of January last, between Washington, Philadelphia, New York and Cambridge, Mass., by Mr. Sears C. Walker, assistant, having charge of the Telegraph operations.

The object in view was to test the practical working of the method of imprinting the dates of star transits on a graduated clock register. The three astronomical stations, selected for the occasion, were the Philadelphia Observatory, under the direction of Prof. Kendall; the New York City station, in the private residence of Dr. L. M. Rutherford, under Prof. E. Loomis; and the Harvard Observatory, Cambridge, under Prof. Wm. Cranch Bond.

In conformity with the plan of his Report of December 15, 1849, duplicate records were kept at the Washington Northern Telegraph office, by Mr. Walker and myself.

The astronomical clock was located at Philadelphia, and rated for

several days by Prof. Kendall. It contained two tilt-hammer *electrotomes*, one invented by Mr. J. J. Speed, jun., of Ithaca, N. Y., in 1847, attached to the minute wheel, and giving its signals every two and a half minutes. The other (used for the occasion) was on the plan invented by Dr. Locke, in 1848, and attached to the escape-wheel. The automatic clock register was graduated to two seconds, usually occupying an inch of paper of the Morse's registering fillet.

Mr. Walker reports, that a comparison of sixty records, made by the two registers at Washington, shows that the probable error of the mechanical operation of printing and reading off, is only about fifteen-thousandths of a second.

This confirms the estimate of accuracy of the work made by him in his report of Dec. 15th last, viz., of a hundredth of a second for the case of an automatic register of single seconds, with an inch of paper to each.

It further appears, from the Report, that when the star-signals were given at Philadelphia, so that the clock and signal-waves had the same local origin, all the registers at all the stations, marked alike, within such limits as were indicated by the probable error just mentioned.

When, however, the star-signals were given at New York, small, but appreciable, differences were noticed in the respective readings of the apparent date, of the same event as recorded at the different stations. This discrepancy was still greater for the case of the Cambridge star-signals, the graduating clock remaining always at Philadelphia.

The following table contains the mean excess of the readings of the date of each event in the time of the Philadelphia automatic clock at each station, over that of each of the others, with the number of single results, and the probable accidental error from the source already referred to. The stations compared are denoted by their initials. Those marked *W*, are for the mean of the two records made at Washington. A further revision of these quantities may somewhat change their amounts.

Two kinds of readings were made, viz., *break circuit* signal readings on a *break circuit clock scale*, and *make circuit* signal readings, on a *make circuit clock scale*.

The excesses indicated by the mean of the two series of readings for the two scales, with the number of results and probable error of each, are reported as follows. The times A, B, C and D, respectively de-

note the time of passage of the galvanic wave between W and P, P and N, N and C, C and W.

For reasons connected with the analytical theory of longitudes, by Telegraph operations, as published in Mr. Walker's report of Nov. 10, 1847, and in the recent report of the 21st ultimo, the mean of the two series is the most plausible value that can be derived from the printed record. The residual quantities do not appear to be explicable by any admissible value of relative times of operations, of the spiral spring and receiving magnet, armature. Neither do they appear to be explained by any reasonable hypothesis of relative changes of apparent dates from changes of permanent magnetism, as it is called, by change of locality of signal station. The analytical theory of this subject was given by Mr. Walker, Dec. 28, 1847, in his Report on the Telegraph operations of 1847.

These several sources of error are nearly all eliminated by the manner of forming the residuals of these tables, and being in their nature periodical, disappear in the average of all the results. It may also be remarked, that the outward and inward armature times of the magnets of the local registers, are relatively annulled by their having the same value for the clock and signal electrotomes.

According to Mr. Walker's report, these residual quantities, from change of relative place of origin of the clock and signal waves, may all be explained by the hypothesis that the time of propagation of the galvanic wave from the place of the clock or star signal stations, to that of the receiving register, though small, is not quite insensible. A solution of the eighteen equations of condition formed on this hypothesis, by Mr. Walker, give, for the velocity of the propagation of the galvanic wave, through the compound circuit, eighteen thousand eight hundred miles per second, with a probable *accidental* error, as stated by him, of about one thousand miles. The statistics are too incomplete to warrant any discrimination between the times of propagation of the wave through the different kinds of media, viz., the wires, the batteries, (three in number,) and the ground. After applying the values of the wave-times by this hypothesis, and with this velocity in the different portions of the whole circuit of one thousand and fifty miles, no sensible discrepancy remains, the residual terms being not greater than their probable errors, from the comparison of the two Washington registers. All the readings now harmonize as well as if all the clock and star signals, and all the printed records had been made in the same place.

The result is one of much interest to the progress of science, and of special importance in the longitude operations of the Coast Survey.

The value apparently attributable to wave time, is too great to be neglected in telegraph operations for longitudes intended to be used as data in connexion with geodetical measurements. A more extensive series of operations, with more complete mechanical arrangements, will be undertaken in the course of the coming season.

Very truly yours,

A. D. BACHE.

DR. R. M. PATTERSON,

Pres. American Philos. Society.

TABLE OF RELATIVE DISTANCES.

No.	Star Signal Station.	Receiving Station Compared.	Wave Time.	Relative miles traversed by Clock and Signal Waves.
1	Philadelphia	P—W	0	0
2		P—C	0	0
3		P—N	0	0
4		W—C	0	0
5		W—N	0	0
6		N—C	0	0
7	Cambridge	P—W	$A + B + C - D$	150
8		P—C	$2 B + 2 C$	900
9		P—N	$2 B$	400
10		W—C	$-A + B + C + D$	750
11		W—N	$-A + B - C + D$	250
12		N—C	$2 C$	500
13	New York	P—W	0	0
14		P—C	$2 B$	400
15		P—N	$2 B$	400
16		W—C	$2 B$	400
17		W—N	$2 B$	400
18		N—C	0	0

CONDITIONAL EQUATIONS.

No.	Conditional Equations, $0 = ax + n.$	Weight. $W.$	$W a.$	$W n.$	Residual Error, $a x + n =$ ϵ	Probable Error. ϵ'	$W \epsilon$	REMARKS.
1	$0 = 0$	17	0	$^s -0.0493$	$^s -0.003$	$^s \pm 0.006$	$^s 0.00015$	$x =$ Wave Time for 100 miles.
2	$0 = 0$	10	0	$^s -0.0150$	$^s -0.002$	$^s 7$	$^s 4$	
3	$0 = 0$	8	0	$^s +0.0304$	$^s +0.004$	$^s 7$	$^s 13$	$x = 0.005629 \pm 0.000302$
4	$0 = 0$	12	0	$^s +0.0900$	$^s +0.007$	$^s 6$	$^s 59$	
5	$0 = 0$	10	0	$^s -0.0470$	$^s -0.005$	$^s 7$	$^s 25$	$E = \pm 0.00435$
6	$0 = 0$	5	0	$^s +0.0350$	$^s +0.007$	$^s 10$	$^s 2$	
7	$0 = 1.5 \times x$	21	31.5	$^s -0.2457$	$^s -0.003$	$^s 4$	$^s 19$	$\frac{10.5}{x} = 18690 \text{ miles} \pm 1000$
8	$0 = 9.0 \times x$	17	153	$^s -0.7701$	$^s +0.005$	$^s 5$	$^s 42$	$=$ miles of wave per second.
9	$0 = 4.0 \times x$	10	40	$^s -0.1150$	$^s +0.011$	$^s 7$	$^s 121$	
10	$0 = 7.5 \times x$	24	180	$^s -0.9264$	$^s +0.003$	$^s 4$	$^s 22$	
11	$0 = 2.5 \times x$	16	40	$^s -0.2304$	$^s +0.000$	$^s 5$	$^s 0$	$\Sigma W n n = 0.12547$
12	$0 = 5.0 \times x$	12	60	$^s -0.5304$	$^s -0.016$	$^s 6$	$^s 307$	$\Sigma W \epsilon \epsilon = 0.00862$
13	$0 = 0.$	9	0	$^s +0.0063$	$^s +0.001$	$^s 8$	$^s 1$	
14	$0 = 4.0 \times x$	6	24	$^s -0.1152$	$^s +0.003$	$^s 7$	$^s 5$	
15	$0 = 4.0 \times x$	7	28	$^s -0.2198$	$^s -0.008$	$^s 8$	$^s 45$	
16	$0 = 4.0 \times x$	8	32	$^s -0.1800$	$^s +0.000$	$^s 7$	$^s 0$	
17	$0 = 4.0 \times x$	10	40	$^s -0.3000$	$^s +0.008$	$^s 7$	$^s 64$	
18	$0 = 0.$	6	0	$^s +0.0948$	$^s -0.014$	$^s 0.008$	$^s 118$	
		208	628.5	$^s +3.5374$	$^s -0.018$ ± 0.100	$^s \pm 0.119$	$^s 0.00862$	

Dr. Elwyn called the attention of the Society to the proposals by Dr. Darlington, of West Chester, to publish, by subscription, Memorials of John Bartram and Humphrey Marshall, "the eminent Pennsylvania Horticulturists, Botanists, and Naturalists," with occasional notes and biographical sketches.

Pending nominations, Nos. 226, 227, and 228, were read.

P R O C E E D I N G S
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V. APRIL—SEPTEMBER, 1849. No. 43.

Stated Meeting, April 6.

Present, twenty-five members.

Dr. PATTERSON, President, in the Chair.

Letters were received and read:—

From the Imperial Society of Naturalists of Moscow, dated Moscow, 31st August, 1848, announcing a donation to the Society:—

From the Royal Geographical Society of London, dated 14th November, 1848, acknowledging the receipt of Vol. X. Part I, of the Transactions, and of Nos. 36 to 40 of the Proceedings of the Society: and—

From a Committee of the American Academy of Arts and Sciences, a circular, dated Boston, 13th March, 1849, in relation to difficulties in which Mr. Schumacher is placed, connected with the support of the astronomical establishment at Altona.

On motion, Dr. R. M. Patterson, Dr. A. D. Bache, and Prof. E. O. Kendall, were appointed a Committee to which was referred the communication from the American Academy of Arts and Sciences, with instructions to report in what manner this Society can best contribute to the permanent establishment of Prof. Schumacher's observatory; and authority was given them to take such measures, in the name and behalf of this Society, for advancing that object, as in their judgment may be expedient, before the next stated meeting of this Society.

The following donations were announced:—

FOR THE LIBRARY.

- Bulletin de la Société Impériale des Naturalistes de Moscou. Tome XX. Nos. 3 & 4, 1847: et Tome XXI. Nos. 1 & 2, 1848. Moscow, 1847-8. 8vo.—*From the Society.*
- A Bibliographical Catalogue of Books, Translations of the Scriptures, and other Publications, in the Indian Tongues in the United States, with brief Critical Notices. Washington, 1849. 8vo.—*From the Hon. William Medill.*
- Discourse delivered on the First Anniversary of the Girard College for Orphans, at the request of the Board of Directors. By Job R. Tyson. Philadelphia, 1849. 8vo.—*From the Author.*
- Journal of the Royal Geographical Society of London. Vol. XVIII. Part 2. London, 1848. 8vo.—*From the Society.*
- Quarterly Journal of the Geological Society. No. 17. Feb. 1849. London. 8vo.—*From the Society.*
- Annals and Magazine of Natural History, including Zoology, Botany and Geology. Vol. III. No. 14. Feb. 1849. London. 8vo. *From Sir William Jardine.*
- Annual Report of the Trustees of the State Library of the State of New York, made to the Legislature, Jan. 15, 1849. Albany. 8vo.—*From the Trustees of the New York State Library.*
- Annual Report of the Commissioner of Patents, for the year 1847. Washington, 1848.—*From the Hon. J. R. Ingersoll.*
- Observations on the Genus Unio, together with descriptions of New Species in the families Naiades, Colimacea, Lymnœana, Melani-ana, and Peristomiana. Read before the American Philosophical Society, and originally published in its Transactions. By Isaac Lea, Member of the Am. Phil. Soc., &c. &c. Philadelphia. 4to.—*From the Author.*
- Journal of the Franklin Institute. Third Series. Vol. XVII. No. 4. April, 1849.—*From the Institute.*
- The Pennsylvania Journal of Prison Discipline and Philanthropy. Published quarterly, under the direction of the "Philadelphia Society for alleviating the Miseries of Public Prisons;" instituted in 1787. Vol. IV. No. 2. April, 1849. Philadelphia. 8vo. *From the Philadelphia Prison Society.*
- The Congressional Globe: New Series: containing Sketches of the Debates and Proceedings of the First Session of the Thirtieth Congress. By Blair and Rives. Washington, 1848. 4to.

The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. No. 34. New Series. April, 1849. Philadelphia. 8vo.—*From Dr. Hays.*

The Medical News and Library. Vol. VII. No. 76. April, 1849. Philadelphia. 8vo.—*From Lea and Blanchard.*

Mr. Ord read an obituary notice of the late Charles Alexander Lesueur, a member of this Society.

On motion of Dr. Bache, the privilege was granted to Mr. Ord of having his memoir of Mr. Lesueur printed in any scientific journal.

Prof. Loomis stated that he had rewritten his paper on the Progress of Astronomy, prepared for the Smithsonian Institution, an account of which was presented to the Society at a former meeting, especially the part in relation to the history of American Observatories, in which he has now adopted a chronological order. Prof. L. read a sketch of this part of his paper.

Pending nominations, Nos. 226, 227 and 228, were read.

Stated Meeting, April 20.

Present, seventeen members.

Dr. PATTERSON, President, in the Chair.

Letters were received and read:—

From A. D. Bache, Superintendent U. S. Coast Survey, dated Washington, 11th April, 1849, enclosing a communication from Lieut. Gilliss: and—

From Edward Armstrong, dated Philadelphia, 18th April, 1849, making application on behalf of the Maryland Historical Society, for a copy of a volume of Indian Vocabularies in possession of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Annals and Magazine of Natural History. Vol. III. No. 15. March, 1849. London. 8vo.—*From Sir William Jardine.*

Proceedings of the New Jersey Historical Society. Vol. III. 1848-9. Newark, N. J. 1849. 8vo.—*From the New Jersey Historical Society.*

Researches upon the Vital Dynamics of Civil Government. By Bennett Dowler, M.D. of New Orleans. New Orleans. 1849. 8vo.—*From the Author.*

Report to the President and Directors of the Ohio and Pennsylvania Rail Road Company. By Solomon W. Roberts, Chief Engineer. 1849.—*From the Author.*

Proceedings of the American Academy of Arts and Sciences. Jan. 1849. (Discussion of the Observations of the Planet Metis, with a determination of its orbit, &c.)—*From the Academy.*

The Committee appointed, at the last meeting, on the subject of the communication from the American Academy of Arts and Sciences, in relation to the Observatory at Altona, reported the following resolutions, which were adopted, and the same Committee appointed to carry them into effect.

“*Resolved*, That the American Philosophical Society would deeply lament the interruption of the labours of Prof. Schumacher, at Altona, believing, as they do, in common with the lovers of astronomy throughout the world, that the Altona Observatory, and the Astronomische Nachrichten, have, in his hands, contributed very largely to the advancement of that science; and that, in their opinion, the discontinuance of the journal, so ably conducted by Prof. Schumacher, which has been, during more than a quarter of a century, the medium of communication between astronomers and mathematicians of all countries, would prove a source of embarrassment to the progress of astronomy, which they trust may be averted.

“*Resolved*, That a Committee of three be appointed to transmit, to Prof. Schumacher, a copy of these resolutions.”

Lieut. Gilliss read a communication intended for the Transactions, and entitled “On the subject of the Determination of the Longitude of the Washington, D. C. Observatory, by comparison of Moon culminations with European Observations;” which was referred to a Committee, consisting of Prof. Kendall, Mr. Longstreth, and Prof. Frazer.

Mr. Justice exhibited specimens of gold found on the farm of Samuel Ellicott, Montgomery county, Maryland, about 30 miles from Baltimore.

The locality has been known but for a few months, and appears to be valuable. Three samples examined at the Mint, yielded as follows:—

No. 1	yielded at the rate of 744 grains per cwt. of ore, or \$610.00 per ton.		
No. 2	960	787.20	”
No. 3	206	168.80	”
	<hr/>	<hr/>	
Average,	636	522	

The quartz which forms the matrix of the gold, crops out amidst a decomposed talcose slate, so that quarrying is very easy. Ores of copper and iron are also present.

Messrs. Bowman & Ebbett, of New York, state that much gold appears to be disseminated throughout the gangue, in so minute a state of division, as to be invisible to the naked eye.

The following extract of a letter from Prof. Emmons, of Albany, describes the geological character of the locality.

The geological formation consists of the talcose slate, mainly in a state of entire decomposition, or disintegration, probably, to a great depth; subordinate to the slate there are regular masses of hornblende rock, or more properly, sienite, which appears often in large beds, forming knolls upon the surface.

In addition to the hornblende, is the quartz, or flint rock, in beds or seams, traversing the slate in lines parallel to that of the slate, all of which runs N. and S. or N. N. W.; these quartz veins constitute the matrix of the gold; they vary in width from half an inch to fifty feet, all of which appears to be auriferous.

Having satisfied myself of the character of the beds, and of the rock formation generally, I proceeded on the second day to determine the fact, whether the gold was common to the seams of quartz which I had found in place; I selected from three of these seams or beds, two of them narrow, the other from a bed at least 50 feet thick; in each and all of them I obtained gold, Mr. Derby washing it for me. The fifty feet bed, of course, was not tested as it should be; but a specimen of the mass, taken at random, which contained oxide of iron, and which appeared as favourable as any part.

I did not indeed expect to find it, but there was no doubt of the fact. It is not so rich apparently as the thinner beds, and the particles of gold are smaller; but it was found in the first and only piece of the rock which I tried.

The most important point which I supposed you wished me to di-

rect my attention, and to determine, without question, was the probable quantity of quartz, or ore, as it is called.

On this point I satisfied myself that there is an abundance, leaving out of view entirely the heavy beds of quartz which I found cropping out at the surface on two sides of the farm; seams or veins, from half an inch to eighteen inches, exist, no doubt, concealed by the soil. I say this on the ground, that large pieces of quartz have been carted from the soil.

The condition of these quartz veins is quite remarkable and interesting, and will be found standing up in the midst of a mass of perfectly disintegrated slate, a fact which will greatly facilitate mining operations and diminish the expense of excavation, the whole work being reduced to the simple operation of shoveling.

This morning I tried a piece of the quartz which I brought home, and found it rich, although I could not discover, by a microscope, any particles of gold. It will be understood, however, that I do not speak of the yield of gold. I did not deem it at all necessary to analyze the rock for this purpose, but it was proper that I should see the gold produced from specimens of my own selection.

I should have accompanied this report with a sketch of the geological formations of the place, but it does not appear necessary, and indeed I could not do it accurately without measurement.

I think the richest part of the farm is that towards the wood land, and that the best way for working is to cut a deep trough or ditch, running east and west, through the centre of the field, and work each way the seams of quartz as they are met with; this will intersect the quartz at right angles, and give great facilities in working.

There being no quorum for election present, the stated business of the meeting was postponed.

On motion of Mr. Trego, permission was granted to the Maryland Historical Society to have a copy made of the Indian Vocabularies in the possession of this Society, provided the same be made under the superintendence and direction of the Librarian.

The Reporter laid upon the table No. 42, of the Proceedings of the Society.

Stated Meeting, May 4.

Present, eleven members.

Dr. PATTERSON, President, in the Chair.

Letters were received and read:—

From the American Antiquarian Society, dated Worcester, Mass., 28th April, 1849; and from the Trustees of the New York State Library, dated Albany, 28th April, 1849, respectively acknowledging the receipt of the Proceedings of this Society, Vol. V. No. 42: and—

From Mr. Petty Vaughan, (addressed to the Librarian,) dated London, 5th April, 1849, requesting, on behalf of the Royal Institution, that certain numbers of the Transactions, and also of the Proceedings of this Society, in which their Library is deficient, should be forwarded to them.

On motion of Dr. Dunglison, the matter was referred to the Librarian, with power to take order.

The following donations were announced:—

FOR THE LIBRARY.

Monthly Notices of the Royal Astronomical Society. Vol. IX. No. 4. February 9, 1849. London. 8vo.—*From the Royal Astronomical Society.*

A Paper upon California: read before the Maryland Historical Society. By J. Morrison Harris, Corresponding Secretary. March, 1849. Baltimore, 1849. 8vo.—*From the Maryland Historical Society.*

The African Repository and Colonial Journal. Vol. XXV. No. 4. April, 1849. Washington. 8vo.—*From the American Colonization Society.*

The Medical News and Library. Vol. VII. No. 77. May, 1849. Philadelphia. 8vo.—*From Lea and Blanchard.*

The Committee appointed at the last meeting, upon the paper of Lieut. Gilliss, made report, recommending its publication in the Transactions of this Society; which was ordered accordingly, and the Committee discharged.

Prof. Kendall referred to an examination which he and

others have recently made of the object-glass, made by Fitz, of New York, for the telescope recently ordered by Lieut. Gilliss, for his observations to be made on the coast of the Pacific. He stated that it promises to be equal in usefulness and power to the Fraunhofer Telescope, at the High School Observatory, a very superior instrument.

Further observations on the manufacture of American glass lenses, and other objects of flint and crown glass, were made by Prof. Frazer.

Mr. Justice gave an account of the early efforts and progress of Mr. Fitz in the manufacture of telescopic lenses.

Pending nominations, Nos. 226, 227 and 228, were read.

On motion of Mr. Trego, it was ordered that the Maryland Historical Society be placed upon the list of correspondents of this Society.

Stated Meeting, May 18.

Present, nine members.

Dr. PATTERSON, President, in the Chair.

A letter was received and read:—

From Prof. E. Everett, dated Cambridge, 10th May, 1849, accompanying a donation to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Memoir on the Geological Action of the Tidal and other Currents of the Ocean. By Charles Henry Davis, A.M. A.A.S., &c., Lieut. U. S. Navy. Cambridge, 1849. 4to.—*From the Author.*

The American Journal of Science and Arts. Conducted by Professors Silliman and Dana. Vol. VII. No. 21. May, 1849. New Haven. 8vo.—*From the Editors.*

The African Repository and Colonial Journal. Vol. XXV. No. 5. May, 1849. Washington. 8vo.—*From the American Colonization Society.*

Reports from the Secretary of the Treasury, of Scientific Investigations in relation to Sugar and Hydrometers: made under the Su-

- perintendence of Prof. A. D. Bache: by Prof. R. S. McCulloh. Washington, 1848. 8vo.—*From the Author.*
- Lecture on the Necessity of the Study of Physiology. Delivered before the American Institute of Instruction, at Hartford, Aug. 22, 1845. By Edward Jarvis, M.D. of Dorchester, Mass. Boston, 1845. 12mo.—*From Dr. Edward Jarvis.*
- Insanity among the Coloured Population of the Free States. By Edward Jarvis, M.D. 1844.—*From the same.*
- Annual Reports to the Legislature of Massachusetts, relating to the Registration of Births, Marriages and Deaths, in that State, from 1843 to 1848. Boston. 8vo.—*From the same.*
- General Abstracts of the Bills of Mortality for the City of Boston, for the years 1844, 1845, 1847 and 1848.—*From the same.*
- Sundry Reports and other Documents on the Subject of Insanity, a Sanitary Survey of the State of Massachusetts, &c. &c.—*From the same.*
- Annual Reports of the Rail-road Corporations in the State of Massachusetts, for 1848. Boston, 1849. 8vo.—*From the same.*
- Sundry Pamphlets relative to the Finances of the State of Massachusetts, the City of Boston, and the Town of Dorchester, and to Insurance Companies. Boston, 1849.—*From the same.*
- Discourse before the Governor, Lieutenant-Governor, Council and Legislature of Massachusetts, at the Annual Election, January 3, 1849. By John Pierce, D.D. Boston, 1849. 8vo.—*From the same.*
- Report to the Directors of the Pequa Rail-road and Improvement Company. By Isaac Lea, President of the Company. Philadelphia, 1849. 8vo.—*From the Author.*
- Über die Vorbedingungen zur Entstehung einer Chronologie bei den Ägypten, und die Möglichkeit ihrer Wiederherstellung als Einleitung zur Chronologie der Ägypter: Von R. Lepsius. Berlin, 1848. 4to.—*From the Author.*
- Journal of the Franklin Institute. Third Series. Vol. XVII. No. 5. May, 1849. Philadelphia. 8vo.—*From the Institute.*
- Critical and Miscellaneous Essays. By Alexander H. Everett. Boston, 1845. 2 Vols. 8vo.—*From President Edward Everett.*

Dr. F. Bache announced the death of Prof. Julius T. Ducatel, of Baltimore, a member of this Society, who died on the 23d April, at the age of 53.

The proceedings of the Officers and Council, at their last meeting, were read by Prof. Frazer, clerk, pro tem.

Pending nominations, Nos. 226, 227 and 228; and new nominations, Nos. 229, 230 and 231, were read.

Stated Meeting, June 15.

Present, thirteen members.

Dr. PATTERSON, President, in the Chair.

Letters were received and read:—

From the Corporation of the University of Cambridge, Mass., dated Cambridge, 28th April, 1849, acknowledging the receipt of Vol. V. No. 42, of the Proceedings of this Society:—

From the New Jersey Historical Society, dated Newark, 16th May, 1849, acknowledging the receipt of the Proceedings of this Society, from No. 38 to 42, inclusive: and—

From Edw. D. Ingraham, Esq., dated Philadelphia, 15th June, 1849, announcing a donation to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Monthly Notices of the Royal Astronomical Society. Vol. IX. No. 5, March 9; and No. 6, April 13, 1849. London. 8vo.—*From the Royal Astronomical Society.*

The Annals and Magazine of Natural History, including Zoology, Botany and Geology. Vol. III. No. 16. April 1849. London. 8vo.—*From Sir William Jardine, Bart. F.L.S.*

Proceedings of the Academy of Natural Sciences of Philadelphia; from March 6 to April 24, 1849.—*From the Academy of Natural Sciences, Philadelphia.*

On the Intimate Structure and History of the Articular Cartilages; and Observations on the Existence of the Intermaxillary Bone in the Embryo of the Human Subject. By Joseph Leidy, M.D. 8vo.—*From the Author.*

History and Transformations of Corydalus Cornutus. By S. S. Haldeman, A.M.; and Internal Anatomy of Corydalus Cornutus,

in its three stages of existence. By Joseph Leidy, M.D. Extracted from the Journal of the American Academy of Arts and Sciences. Boston and Cambridge, 1848. 4to.—*From the Authors.*

Journal of the Franklin Institute. Third Series. Vol. XVII. No. 6. June, 1849. Philadelphia. 8vo.—*From the Institute.*

The Medical News and Library. Vol. VII. No. 78, and Supplement. June, 1849. Philadelphia. 8vo.—*From Lea and Blanchard.*

The African Repository and Colonial Journal. Vol. XXV. No. 6. June, 1849. Washington. 8vo.—*From the American Colonization Society.*

A Narrative of Events which occurred in Baltimore Town during the Revolutionary War: to which are appended various Documents and Letters, the greater part of which have never been heretofore published. By Robert Purviance. Baltimore, 1849. 8vo.—*From the Maryland Historical Society.*

Fac-simile Reprint of "Poor Richard's Almanac, for the year of Christ, 1733. Printed and sold by B. Franklin, at the New Printing Office, near the Market." Philadelphia, 1849. 12mo. *From E. D. Ingraham, Esq.*

Mr. Isaac Lea made the following communication upon some reptilian foot-marks recently discovered by him in the gorge of the Sharp Mountain, near Pottsville, Pa.

It has not been until within a very few years that fossil "foot-marks" have been discovered and sufficiently observed to identify them with existing families and genera. Dr. Deane and Professor Hitchcock observed many in the new red sandstone of Connecticut and Massachusetts, and have described them in various papers in the American Journal of Science and Arts. Recently the latter gentleman has published an extensive and able paper on the subject in the Transactions of the American Academy of Arts and Sciences, Vol. III.

Accompanying the "foot-marks," the surface of the layers was frequently covered with "ripple marks, and the pits of rain drops." Mr. Redfield also observed them in New Jersey. As strict science is always disposed to receive new facts with caution, there was a good deal of scepticism displayed on the announcement of these discoveries; but the accumulation of evidence from various parts of the world soon satisfied the doubts of the most scrupulous. It would now be almost ridiculous to doubt "fossil foot-marks." There is no geological fact better established.

The great point now among geologists is to enlarge our knowledge of them by increasing and multiplying the facts. For this purpose there have been many active observers in the field, and only a few years since the scientific world was startled with the announcement, by Dr. King, of Greensburg, Pa., of the fact, that he had discovered unquestionable fossil foot-marks of reptiles in the sandstone of the coal measures, in Westmoreland county, near that town. A short time before this Mr. Logan had discovered, in the carboniferous rocks of Nova Scotia, foot-marks which appeared to Mr. Owen to belong to some unknown species of reptile. A communication was made by Dr. King, to the Academy of Natural Sciences, December 17th, 1844, in which he gave the description and figures of a bird and two "saurian reptiles." No saurian remains had, before these announcements, been found lower in the series than the *new red sandstone*, and this new fact created great interest among geologists. Dr. King states the impressions to be "near 800 feet beneath the topmost stratum of the coal formation."

Mr. Lyell, in Silliman's Journal, July, 1846, describes his visit to Greensburg, where he examined these foot-marks, and sustained Dr. King's observation and description of them. He considered them to belong to the genus *Cheirotherium*. He says, "they consist, as before stated, of the tracks of a large reptilian quadruped, in a sandstone in the middle of the carboniferous series, a fact so full of novelty and interest that, when we reflect on its importance, all disappointment in the abandonment of the spurious foot prints is forgotten:" and further on he observes, that "here, in Pennsylvania, for the first time, we meet with evidence of the existence of air-breathing quadrupeds, capable of roaming in those forests where the *Sigillaria*, *Lepidodendron*, *Caulopteris*, *Calamites*, *Ferns*, and other plants flourished."

In these papers of Dr. King and Mr. Lyell, it is not a little remarkable that they both should have overlooked or passed unnoticed the fact, announced by Mr. Lyell himself, three years before, in Silliman's Journal, that Mr. Logan had discovered foot steps in the carboniferous rocks of Nova Scotia, "constituting the first indications of the reptilian class known in the carboniferous rocks." (Vol. 45, page 358.)

The object of this communication is to announce to the Society, that I have discovered the foot prints, in bas relief, of a *reptilian quadruped*, lower in the series than has yet been observed. On the 5th of April last, in the examination of the strata in the gorge of the Sharp Mountain, near Pottsville, Pa., where the Schuylkill breaks

through it, a large mass of remarkably fine old red sandstone attracted my attention. Imprinted upon it, I was surprised to find six distinct impressions of foot-marks, in a double row of tracks, each mark being duplicated by the hind foot falling into the impression of the fore foot, but a little more advanced. The strata here are tilted a little over the vertical, and the surface of rock exposed was about twelve feet by six feet, the whole of which surface was covered with ripple marks and the pits of rain drops, beautifully displayed in the very fine texture of the deep red sandstone.

The six *double impressions* distinctly show, in the two parallel rows formed by the left feet on the one side and the right feet on the other, that the animal had five toes on the fore feet, three of which toes were apparently armed with unguinal appendages. The length of the double impression is four and a quarter inches;* the breadth four inches; the distance apart in the length of the step of the animal thirteen inches; across, from outside to outside, eight inches.



* The figure is rather more than half the natural size of the impression.

The mark of the dragging of the tail is distinct, and occasionally slightly obliterates a small part of the impressions of the foot-marks. The ripple marks are seven to eight inches apart, and very distinct, as well as the pits of the rain drops. These foot-marks assimilate remarkably to those of the recent *Alligator Mississippiensis*, and are certainly somewhat analogous to the *Cheirotherium*.

The geological position of this reptilian quadruped is of great interest, from the fact, that no such animal remains have heretofore been discovered so low in the series. Those described by Dr. King, in the great western coal field, are only 800 feet below the surface of the coal formation. (No. 13, of Prof. Rogers, the State Geologist.) The position of the Pottsville "foot-marks" is about 8500 feet below the upper part of the coal formation there, which is 6750 feet thick, according to Professor Rogers, and they are in the "*red shale*," (his No. 11,) the intermediate silicious conglomerate (No. 12,) being stated by him to be 1031 feet thick at Pottsville. These measurements would bring these foot-marks about 700 feet *below the upper surface of the old red sandstone*.

A mass of coal plants exists immediately on the northern face of the heavy conglomerate, here tilted ten degrees over the vertical, and forming the crest and "back-bone" of Sharp Mountain. This conglomerate mass is about 150 feet thick at the western side of the road below Pottsville. On the same road side, about 1735 feet from these coal plants, is the face of the rock, tilted slightly over the vertical, and facing the north. It is proper to state, that the limestone of the old red sandstone exists here, about two feet thick, and underlies these "foot-marks" sixty-five feet.

On the slab there are obscure remains of other organized matter; small spots, with filamentous radiations, and a small bone or seed-like mark, which is difficult to make out.

I was fortunate enough to obtain these impressions in a large and heavy slab, which is now in my possession.

It is my intention, when more at leisure, to make a more lengthened and accurate description, with correct figures, of this remarkable and interesting specimen, which exhibits on its table the record of the oldest saurian yet observed. When finished, the paper will be submitted to the Society for publication in the Transactions. In the meantime, I propose the provisional name of *Sauropus primævus*.

Stated Meeting, July 20.

Present, eight members.

Dr. PATTERSON, President, in the Chair.

The following donations were announced :—

FOR THE LIBRARY.

Untersuchungen über die Gegenseitige Lage der Bahnen der zwischen Mars und Jupiter sich bewegendenden Planeten. Inaugural Dissertation von Benjamin Apthorp Gould. Göttingen, 1848. 4to.
From the Author.

Dei Fenomini Elettrici della Macchina di Armstrong, e delle cause loro assegnate dai fisici. Memoria del Cav. Prof. F. Zantedeschi. 8vo.—*From Prof. Zantedeschi.*

Dell' Influenza delle Variazioni di Pressione nelle Indicazioni Termometriche. Memoria del Cav. Prof. Franc. Zantedeschi. 8vo.
From the same.

Della Produzione d'Imagini ottenuta dalla Projezione Spontanea degli Ossidi Metallici sottoposti ad alte temperature e di un quarto stato della materia. Del Cav. Prof. Franc. Zantedeschi. 8vo.—*From the same.*

Elenco delle Principale Opere Scientifiche dell' Abate Francesco Zantedeschi, &c. Venezia, 1849. 8vo.—*From the same.*

Catalogue of Plants, native and naturalized, collected in the vicinity of Cincinnati, Ohio, during the years 1834—1844. By Thomas G. Lea. Philadelphia, 1849. 8vo.—*From Isaac Lea.*

Sixty-second Annual Report of the Regents of the University of the State of New York : made to the Legislature, March 1, 1849. Albany, 1849. 8vo.—*From the Regents of the University of the State of New York.*

Service Pipes for Water. An Investigation made at the suggestion of the Board of Consulting Physicians of Boston. By Prof. E. N. Horsford. Cambridge, 1849. 8vo.—*From the Author.*

The Pennsylvania Journal of Prison Discipline and Philanthropy. Published quarterly, under the direction of "The Philadelphia Society for Alleviating the Miseries of Public Prisons," instituted 1787. Vol. IV. No. 3. July, 1849. Philadelphia. 8vo.—*From the Philadelphia Prison Society.*

- The Annals and Magazine of Natural History, including Zoology, Botany and Geology. Vol. III. No. 17. May, 1849. London. 8vo.—*From Sir William Jardine, Bart.*
- Monthly Notices of the Royal Astronomical Society. Vol. IX. No. 7. May 11, 1849. London. 8vo.—*From the Society.*
- The American Journal of Science and Arts. Conducted by Profs. Silliman and Dana. Second Series. Vol. VIII. No. 22. July, 1849. New Haven. 8vo.—*From the Editors.*
- Observations at the Magnetic and Meteorological Observatory at the Girard College, Philadelphia: made under the direction of A. D. Bache, L.L.D., and with funds supplied by the Members of the American Philosophical Society, and by the Topographical Bureau of the United States. 1840 to 1845. Printed by order of the Senate of the United States, and under the direction of the Topographical Bureau. 3 Vols. 8vo. and one 4to. Vol. of Plates. Washington, 1847.—*From A. D. Bache, L.L.D.*
- The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. No. XXXV. New Series. July, 1849. Philadelphia. 8vo.—*From Dr. Isaac Hays.*
- The Medical News and Library. Vol. VII. No. 79. July, 1849. Philadelphia. 8vo.—*From Lea and Blanchard.*
- Journal of the Franklin Institute. Third Series. Vol. XVIII. No. 1. July, 1849.—*From the Institute.*
- On the Composition of Schuylkill Water. By Martin H. Boye, M.D. A.M.—*From the Author.*
- The African Repository and Colonial Journal. Vol. XXV. No. 7. July, 1849. Washington. 8vo.—*From the American Colonization Society.*
- The Documentary History of the State of New York, arranged under direction of the Hon. Christopher Morgan, Secretary of State. By E. B. O'Callaghan, M.D. Albany, 1849. 8vo.—*From the Regents of the University of the State of New York.*
- Notes on the Cathedral Libraries of England. By Beriah Botsfield. London. 1849. 8vo.—*From the Author.*
- Bulletin de la Société de Géographie. Troisième Serie. Tome IX. Paris, 1848. 8vo.—*From the Geographical Society of Paris.*
- Journal Asiatique. Quatrième Serie. Tome XII. Nos. 57, 58, 59, 60. Aug. to Dec. 1848. Paris. 8vo.—*From the Asiatic Society of Paris.*

Dr. Horner called the attention of the members to the popu-

lar opinion, that the prevalence of Cholera is owing to a peculiar condition of the atmosphere.

Dr. Franklin Bache made some observations on the presumed electrical condition of the atmosphere as connected with Cholera, and doubted the influence ascribed to this condition in some recent publications.

Mr. Sears C. Walker communicated to the Society the discovery of a new analogy in relation to the periods of rotation of the primary planets, recently made by Mr. Daniel Kirkwood, of Pottsville, Pa.

Mr. W. remarked at length on the nature of the analogy, and gave his opinion, based on careful computations, made for the purpose of testing the hypothesis, that it deserves to rank at least with Kepler's harmonies, and that its close agreement with the elements of all the primary planets, justifies the remark, "that it is difficult to resist the conclusion that it is a law of nature."

This analogy may be thus expressed: "The square of the number of a planet's days in its year, is as the cube of Laplace's diameter of the planets sphere of attraction in the nebular hypothesis."

Mr. W. expressed a belief, that Mr. Kirkwood's analogy would tend to throw light on the present internal organization of the planets, and perhaps, also, on their more primitive condition, as assumed by Laplace in his nebular hypothesis.

Whatever may have been in a more primitive state, that quantity of motion which is now the momentum of rotation of the planets, we know that it must have been a constant. While, therefore, each planet now preserves this constant momentum of rotation, it has taken such a diameter, such a mean density, and such a decrease of density, from centre to surface, as to give it that angular velocity of rotation, which has, towards the ratio of the mean distance, and primitive diameter of the sphere of attraction, the very simple relation first discovered by Mr. Kirkwood. If either the diameter, mass or law of decrease of density, from centre to surface, for any one of the planets were different from its present state, Kirkwood's analogy would fail for that planet.

We may also remark, that a great change in the quantity of caloric of a planet, or in the law of its distribution in the interior of it, or in the calorific repulsion of any two adjacent particles, at a given temperature and given distance from each other, would impair the precision of the analogy. Since no such defect is noticed in the applica-

tion of Kirkwood's analogy to the planets of the system, it follows, that, in their present condition, they present that nice adaptation of parts which is necessary to produce in the whole the harmony noticed by Mr. Kirkwood. This nice adaptation of parts they must have had in any primitive state differing from the present. To such a state our attention is unavoidably drawn by the necessity of introducing into Kirkwood's formula, the diameter of their sphere of attraction, derived from the nebular hypothesis.

The stated business of the meeting, the balloting for candidates for membership, was postponed in consequence of there not being the requisite quorum of members present.

Pending nominations, Nos. 226 to 231, inclusive, were read.

Stated Meeting, August 17.

Present, eight members.

Dr. PATTERSON, President, in the Chair.

Letters were received and read:—

From the Academy of Natural Sciences of Philadelphia; and from Gen. Jos. G. Totten, announcing donations to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Reports, &c. of the Smithsonian Institution, exhibiting the Plans, Operations and Financial Condition, up to January 1, 1849. From the Third Annual Report of the Board of Regents. Presented to Congress, Feb. 19, 1849. Washington. 8vo.—*From the Institution.*

Another copy of the same.—*From Dr. Dunglison.*

An Account of the Observatory at Pulkova, as written for the North American Review. July, 1849.—*From the Author, B. A. Gould, Jr.*

Astronomical Observations made at the Radcliffe Observatory, Oxford, in the year 1847. By Manuel J. Johnson, M.A. Radcliffe Observer. Vol. VIII. Published by order of the Radcliffe Trustees. Oxford, 1849. 8vo.—*From the Radcliffe Trustees.*

Circular prepared by direction of the Hon. Wm. Ballard Preston, Secretary of the Navy, in relation to the Astronomical Expedition to Chili. By Lieut. M. F. Maury, U. S. N., Superintendent of

the National Observatory. Washington, 1849. 4to.—*From Lieut. J. M. Gilliss, U. S. N.*

Papers on Practical Engineering. Published by the Engineer Department, for the use of the United States Corps of Engineers. Vol. I. No. 4. Description of a System of Military Bridges with India Rubber Pontons. Prepared for the United States Army, by Capt. Geo. W. Cullum, United States Engineers. 1849. 8vo.—*From Gen. J. G. Totten.*

The African Repository and Colonial Journal. Vol. XXV. No. 8. Aug. 1849. Washington. 8vo.—*From the American Colonization Society.*

Proceedings of the New Jersey Historical Society. Vol. IV. No. 1. 1849. 8vo.—*From the Society.*

A Sketch of the Events which preceded the Capture of Washington, by the British, on the 24th of August, 1814. Philadelphia. 1849. 8vo.—*From the Author, E. D. Ingraham, Esq.*

Journal of the Franklin Institute. Third Series. Vol. XVIII. No. 2. Aug. 1849. Philadelphia. 8vo.—*From the Institute.*

The Medical News and Library. Vol. VII. No. 80. Aug. 1849. Philadelphia. 8vo.—*From Lea and Blanchard.*

Mr. Justice read an extract of a letter from Merz & Son, of Munich, in relation to a new parallactic telescope recently constructed by them, with many new improvements. It admits of an unusually extensive change of elevation, being applicable to a great extent of latitude, and the whole is calculated for mounting upon stone.

Mr. Justice made some observations on the late extraordinary rise in the Mississippi river, which he was inclined to attribute to a partial elevation of the coast and a consequent rise in the bed of the river.

He thought facts corroborated the opinion of a general rising of the coast of the river, being the cause of the overflow. The channel of the river opposing less resistance to the influence of the upheaving cause, became more flexed than the surface of the surrounding country, and hence the long continued and great discharge of water through the crevasse, at a time when no unusual floods had reached the Mississippi from its tributaries.

Dr. Patterson announced the death of Albert Gallatin, the oldest surviving member of this Society, who died at New York, on the 13th instant, in the 90th year of his age.

Stated Meeting, September 21.

Present, fourteen members.

Dr. PATTERSON, President, in the Chair.

Letters were received and read:—

From the Royal Institute of Science, Belles-Lettres and the Arts of the Netherlands, dated Amsterdam, April, 1849; and from the Royal Bavarian Academy of Sciences, dated Munich, 1st February, 1849, announcing the transmission of donations to the Society:—

From the Royal Institution of London, dated Albemarle street, 2d May, 1849, acknowledging the receipt of Vol. V. No. 41, of the Proceedings of this Society:—

From F. Le Play of the Ecole des Mines, Paris, dated Paris, 30th July, 1849, in relation to the exchange of publications with this Society: and—

From Mr. Reuben Hanse, dated Philadelphia, 13th September, 1849, transmitting a communication on the origin of the planetary motions, by Mr. Wm. Kahler.

The following donations were announced:—

FOR THE LIBRARY.

Discursos Politicos sobre la Legislacion y la Historia del antiguo Reino de Aragon. Por Don Javier de Quinto, de la Academia de la Historia. Madrid, 1848. 8vo.—*From the Author.*

Verhandelingen der Eerste Klasse van het Koninklyk Nederlandsche Instituut van Wetenschappen, Letterkunde, en Schoone Kunsten, te Amsterdam. Derde Reeks; Eersten Deels; Tweedes Stuk. Amsterdam, 1848. 4to.—*From the Royal Netherlands Institute of Science, Literature and the Fine Arts.*

Tydschrift voor de Wis-en Natuurkundige Wetenschappen, uitgegeven door de Eerste Klasse van het Koninklyk Nederlandsche Instituut van Wetenschappen, Letterkunde, en Schoone Kunsten. Tweede Deel: 3 and 4 aflevering. Amsterdam, 1849. 8vo. *From the same.*

Nachrichten von der Georg Augusts Universität und der Königlich Gesellschaft der Wissenschaften zu Göttingen: vom jahre 1848.

- No. 1—14. Göttingen, 1848. 8vo.—*From the Royal Society of Sciences at Göttingen.*
- Executive Documents of the First Session of the Thirtieth Congress of the United States, 1847–8. 9 Vols. Washington. 8vo. *From the Department of State, Washington.*
- Journal of the Senate of the United States, being the First Session of the Thirtieth Congress, begun and held at the City of Washington, Dec. 4, 1847. 1 Vol. 8vo.—*From the same.*
- Reports of Committees: Printed by order of the Senate of the United States during the First Session of the Thirtieth Congress, 1847–8. 1 Vol. 8vo.—*From the same.*
- Documents: Printed by order of the Senate of the United States during the First Session of the Thirtieth Congress, 1847–8. 8 Vols. 8vo.—*From the same.*
- Miscellaneous Documents: Printed by order of the Senate of the United States during the First Session of the Thirtieth Congress, 1847–8. 1 Vol. 8vo.—*From the same.*
- Documents: Printed by order of the Senate of the United States at the Second Session of the Twenty-eighth Congress, 1844–5. Vols. IV. V. VI.—*From the same.*
- Journal of the House of Representatives of the United States, being the First Session of the Thirtieth Congress, begun and held in the City of Washington, Dec. 6, 1847. 1 Vol. 8vo.—*From the same.*
- Miscellaneous Documents: Printed by order of the House of Representatives during the First Session of the Thirtieth Congress, 1847–8. 1 Vol. 8vo.—*From the same.*
- Reports of Committees during the First Session of the Thirtieth Congress, 1847–8. 4 Vols. 8vo.—*From the same.*
- Journal of the Academy of Natural Sciences of Philadelphia. New Series. Vol. I. Part 3. Philadelphia. July, 1849. 4to.—*From the Academy.*
- The Annals and Magazine of Natural History, including Zoology, Botany and Geology. Second Series. Vol. III. No. 18, June, and Vol. IV. No. 19, July, 1849. London. 8vo.—*From Sir William Jardine.*
- The African Repository and Colonial Journal. Vol. XXV. No. 9. Sept. 1849. Washington. 8vo.—*From the American Colonization Society.*
- The Medical News and Library. Vol. VII. No. 81. Sept. 1849. Philadelphia. 8vo.—*From Lea and Blanchard.*

- Journal of the Franklin Institute. Third Series. Vol. XVIII. No. 3. Sept. 1849. Philadelphia. 8vo.—*From the Institute.*
- American Colonial History: An Address made by Thomas Donaldson, Esq. before the Maryland Historical Society, Baltimore, March 29, 1849, being the Fourth Annual Address to that Association. Baltimore, 1849. 8vo.—*From the Maryland Historical Society.*
- Proceedings of the American Academy of Arts and Sciences. May 30, 1848, to Aug. 8, 1849. Boston. 8vo.—*From the Academy.*
- A Glance at the Fossil Flora of the Carboniferous Epoch, with especial reference to the Yorkshire Coal Field. A Paper read before the Geological and Polytechnic Society of the West Riding of Yorkshire, at Wakefield, March 8, 1849. By Henry Denny, A.L.S. Leeds, 1849. 8vo.—*From the Author.*
- Bulletin der Königlich Akademie der Wissenschaften. Jahrgang, 1848. No. 1 to 52. Munich. 4to.—*From the Royal Bavarian Academy of Sciences.*
- Abhandlungen der Mathematisch-Physikalischen Classe der Königlich Bayerischen Akademie der Wissenschaften. Vol. V. Part 2. Munich, 1848. 4to.—*From the same.*
- Gelehrte Anzeigen: Herausgegeben von Mitgliedern der Königlich Bayerischen Akademie der Wissenschaften. Vols. XXVI. XXVII. Munich, 1848. 4to.—*From the same.*
- Die Chemie in ihrem verhältnisse zur Physiologie und Pathologie: Festrede vorgetragen in der öffentlichen sitzung der Königlich Bayerischen Akademie der Wissenschaften zu München, zur feier ihres neun und achtzigsten stiftungs-tages, am 28 März, 1848. Von Prof. D. Max. Pettenkofer. Munich, 1848. 4to.—*From the same.*
- Denkrede auf Joseph Gerhard Zuccarini: Gelesen in der öffentlichen sitzung der Königlich Bayerischen Akademie der Wissenschaften, am 28 März, 1848. Von Carl Friedr. Phil. v. Martius. Munich, 1848. 4to.—*From the same.*
- Annalen der Könighchen Sternwarte bei München. Von Dr. J. Lamont. Vol. I. Munich, 1848. 8vo.—*From the same.*
- Übersicht der Arbeiten und Veränderungen der Schlesichsen Gesellschaft für vaterlandische Kultur im Jahre, 1847. Breslau, 1848. *From Prof. Von Boguslawski.*
- Uranus synchronistisch geordnete Ephemeride aller Himmelserscheinungen des jahres 1849, erstes und zweites Quartal; zunächst

berechnet für den Horizont der Sternwarte zu Breslau, &c.—*From the Editor, Prof. Von Boguslawski.*

On the use of a New Micrometer, and its application to the Determination of the Parallax of Mars. By Prof. Dr. Von Boguslawski. From the Memoirs of the Royal Astronomical Society. Vol. XV. *From the Author.*

Verzeichniss sämmtlicher Werke, Abhandlungen, Aufsätze und Bemerkungen von Friedr. Wilh. Bessel. Zusammengetragen, chronologisch geordnet, und mit einem gedrängten Sachregister versehen. Von Dr. A. L. Busch. Königsberg, 1849. 4to.—*From the Author.*

Judge Kane announced the death of Charles Chauncey, Esq. a member of this Society, who died on the 30th August, in the 73d year of his age, and accompanied the announcement with a brief tribute to his merits.

Dr. Franklin Bache announced the death of Mr. Jacob Perkins, of London, formerly of Philadelphia, a member of this Society, who died on the 30th July, in the 83d year of his age.

Prof. Kendall presented a paper from Prof. L. C. Garland, entitled "A Notice of the Astronomical Observatory of Alabama, situated at Tuscaloosa," which was referred to a Committee, consisting of Prof. Kendall, Prof. S. Alexander, and Mr. Downes.

Prof. Frazer read a communication from Mr. Wm. Kahler, on the origin of the motion of the planets, which was referred to a Committee, consisting of Prof. Frazer, Prof. Kendall and Mr. Justice.

Pending nominations, from No. 226 to 231, inclusive, were read.

On motion of Prof. Kendall, the following resolution was adopted.

"*Resolved*, That the American Philosophical Society, highly approving of the proposal of the American Association for the Advancement of Science, to publish an Astronomical Journal, for the prompt circulation of information relative to the advancement of astronomical science in this country and in Europe, recommend the proposal to the encouragement of the friends and patrons of science throughout the United States."

P R O C E E D I N G S
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V. OCTOBER, 1849—MARCH, 1850. No. 44.

Stated Meeting, October 5.

Present, fourteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

A letter was read:—

From the Imperial Society of Naturalists of Moscow, dated Moscow, 3d May, 1849, announcing the transmission of a donation to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Kongl. Vetenskaps-Akademiens Handlingar, för år 1846. Stockholm. 8vo.—*From the Royal Academy of Sciences, Stockholm.*
Årsberättelse om Zoologiens Framsteg under åren 1843, 1844, 1845, 1846; till Kongl. Vetenskaps-Akademien; afgifven af Zoologiæ Intendenterna, &c. Vols. III. and IV. Stockholm, 1847–8. 8vo.
From the same.

Årsberättelse om Framstegen i Kemi och Mineralogi, afgifven den 31 Mars, 1847. Af Jac. Berzelius. Stockholm, 1848. 8vo.—
From the same.

Ofversigt af Kongl. Vetenskaps-Akademiens Förhandlingar. 1847. Nos. 7, 8, 9; and 1848: Nos. 1, 2, 3, 5, 6. Stockholm. 8vo.
From the same.

Index Molluscorum litora Scandinaviæ Occidentalia habitantium. Faunæ Prodromum offert S. Lovén. Stockholm, 1846. 8vo.—
From the Author.

Annales des Mines. Tome IX. X. 1846; XI. XII. 1847; XIII. XIV. 1848. Paris. 8vo.—*From the Chief Engineer of the Ecole des Mines.*

- Journal Asiatique. Quatrième Série. Tome XIII. Nos. 61 to 64, inclusive. January to May, 1849. Paris. 8vo.—*From the Asiatic Society of Paris.*
- Bulletin de la Société de Géographie. Troisième Série. Tome X. Paris, 1849. 8vo.—*From the Geographical Society of Paris.*
- Compte Rendu de la Société Géologique de France. Réunion extraordinaire à Epinal. Sept. 1847. 8vo.—*From the Geological Society of Paris.*
- Mémoire sur la Protogine des Alpes. Par M. A. Delesse. 1849. 8vo.—*From the Author.*
- Sur le Pouvoir Magnétique des Minéraux et des Roches. Par M. A. Delesse, Ingénieur des Mines. 8vo.—*From the same.*
- Bulletin de la Société Impériale des Naturalistes de Moscou. Nos. 3 & 4, 1848. No. 1. 1849. 8vo.—*From the Imperial Society of Naturalists of Moscow.*
- Journal of the Royal Geographical Society of London. Vol. XIX. Part 1. London, 1849.—*From the Society.*
- Report of the Eighteenth Meeting of the British Association for the Advancement of Science, held at Swansea, in August, 1848. London. 8vo.—*From the Association.*
- Annals and Magazine of Natural History, including Zoology, Botany, and Geology. Second Series. Vol. IV. No. 20. Aug. 1849. London. 8vo.—*From Sir William Jardine, Baronet.*
- The American Journal of Science and Arts. Second Series. Vol. VIII. No. 23. Sept. 1849. New Haven. 8vo.—*From the Editors.*

The Committee to whom had been referred at the last meeting, Mr. Kahler's communication on the origin of the Planetary motions, reported that they deemed it in its present state unsuited for publication in the Transactions of the Society, and recommended that it be held subject to the disposal of the author.

The recommendation was adopted, and the Committee discharged.

Professor Frazer exhibited two diamonds from the gold region of Georgia. They are well crystallized, not of very fine water, and weigh about one and a half carats each. The gentleman from whom they came states, that he believes that others may be obtained from the same locality.

Dr. MacEuen exhibited a specimen, said to be pure zinc, ob-

tained by distillation in close vessels, from the red oxide of zinc found in the northern part of New Jersey.

These communications gave rise to a discussion, in which Messrs. Trego, Fraley, Justice and Frazer took part.

Pending nominations, from Nos. 226 to 231, inclusive, were read.

Stated Meeting, October 19.

Present, twenty-two members.

Dr. PATTERSON, President, in the Chair.

A letter was read:—

From the Royal Institution of London, dated Albemarle street, 31st August, 1849, acknowledging the receipt of Nos. 1, 2, 4, 8, 27, and 42, of the Proceedings of this Society.

Also, a printed circular from a Committee of the American Association for the Advancement of Science, dated 1st October, 1849, in relation to the establishment and publication of an Astronomical Journal in this country.

The following donations were announced:—

FOR THE LIBRARY.

Journal of the Royal Asiatic Society of Great Britain and Ireland.

Vol. XI. Part 1, and Vol. XII. Part 1. London, 1849. 8vo.—

From the Society.

Quarterly Journal of the Geological Society of London. No. 19.

Aug. 1, 1849. London. 8vo.—*From the Society.*

Annals and Magazine of Natural History, including Zoology, Botany, and Geology. Vol. IV. No. 21. Sept. 1849. London. 8vo.—

From Sir William Jardine.

Proceedings of the New Jersey Historical Society. Vol. IV. No. 2.

Newark, 1849. 8vo.—*From the Society.*

The American Journal of the Medical Sciences. Edited by Isaac

Hays, M.D. No. 36. New Series. Oct. 1849. Philadelphia.

8vo.—*From Dr. Hays.*

The Medical News and Library. Vol. VII. No. 82. Oct. 1849.

Philadelphia. 8vo.—*From Lea & Blanchard.*

The Swedish Church in America. A Discourse delivered before the

Historical Society of the American Lutheran Church, May 18, 1848. By William M. Reynolds, A.M. Professor in Pennsylvania College, Gettysburg, Pa. 8vo.—*From Professor M. L. Stoeber, of Gettysburg.*

The Study of Natural History. An Address delivered before the Lianæan Association of Pennsylvania College, at the Annual Commencement, Sept. 19, 1849. By Daniel M. Smyser, A.M. Gettysburg, 1849. 8vo.—*From the same.*

The Pennsylvania Journal of Prison Discipline and Philanthropy. Vol. IV. No. 4. Oct. 1849. Philadelphia. 8vo.—*From the Philadelphia Prison Society.*

The African Repository and Colonial Journal. Vol. XXV. No. 10. Oct. 1849. Washington. 8vo.—*From the American Colonization Society.*

Mr. Justice mentioned to the Society, that within a few weeks past he had had placed in his hands for examination, a telescope, the object-glass of which had been affected by the deterioration before alluded to by him. In this case the impression from one of the lenses of the object-glass had been communicated to the other lens.

Professor Henry communicated some experiments which he had made upon the subject of the radiation of heat. It occurred to him, from the constitution of the atmosphere, that if the air was a good radiator of heat, the higher temperatures below, and lower above, could not be permanent. By placing a thermo-multiplier before a flame, interposing a screen of wood with a hole through it, radiation from the flame was perceived, becoming less as the flame was lowered, and still existing, though in small quantities, from the heated air above the flame. Prof. H. also repeated the experiments upon the radiation of heat from flames. The radiation of heat from the flame of hydrogen is but small, as is its radiation of light. This radiation is much increased by placing a solid in the flame. This is in accordance with Count Rumford's assertion, that clay-balls placed in the fire increased the amount of heat. Prof. Henry also mentioned some experiments which he had made some years ago upon the reflection of heat from ice with a concave mirror of that substance.

The stated business of the meeting, the balloting for members, was then proceeded with.

On motion of Professor Frazer, the Librarian was directed to subscribe, on the part of the Society, to the Astronomical Journal, which it is proposed to publish in Boston, under the editorship of B. A. Gould, jr.

The other business of the meeting having been concluded, the ballot-boxes were opened, and the following named gentlemen were declared duly elected members of the Society.

JOHN GOODSIR, Esq., of Edinburg.

JOHN HUGHES BENNET, M.D., of Edinburg.

FRANCIS KIERMAN, Esq., of London.

A. A. GOULD, M.D., of Boston.

JOSEPH LEIDY, M.D., of Philadelphia.

W. S. W. RUSCHENBERGER, M.D., U. S. Navy.

Stated Meeting, November 2.

Present, fourteen members.

Dr. PATTERSON, President, in the Chair.

Dr. Ruschenberger, a newly elected member, was introduced, and took his seat.

Letters were read:—

From Dr. Augustus A. Gould, dated Boston, 27th October, and from Dr. W. S. W. Ruschenberger, dated Philadelphia, 22d October; respectively acknowledging the receipt of notice of their election as members of this Society;—

From the Literary and Philosophical Society of Manchester, dated Society's Rooms, George street, 3d October, 1849, acknowledging the receipt of Nos. 41 and 42 of the Proceedings of this Society:—

From the Regents of the University of the State of New York, dated Albany, 27th October, 1849: and,—from the American Antiquarian Society, dated Worcester, Mass., 27th October, 1849, both acknowledging the receipt of No. 43 of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

- Sixteenth Annual Report of the Royal Cornwall Polytechnic Society, 1848. Falmouth. 8vo.—*From the Society.*
 Journal of the Franklin Institute. 3d Series. Vol. XVIII. No. 4. Oct. 1829. Philadelphia. 8vo.—*From the Institute.*
 A Memoir of Charles Alexander Lesueur. Read before the American Philosophical Society, at the stated meeting, on the 6th of April, 1849: by George Ord. 8vo.—*From the Author.*

The following resolution was offered by Dr. Hays.

Resolved, That the Curators be authorized to deposit the fossil organic remains, belonging to this Society, with the Academy of Natural Sciences of Philadelphia: provided that the Academy will agree to accept of the deposit and take proper measures for the preservation of the specimens; and, farther, shall, by their proper officer, sign a receipt for the same, and agree to return them in good condition when required by this Society.

Which was read, considered, and adopted.

On motion of Dr. F. Bache, the following resolution was adopted.

Resolved, That a Committee be appointed to consider of the best means of arranging and preserving the "Franklin Manuscript Papers," now in the possession of this Society.

And Dr. F. Bache, Mr. Trego, and Mr. Ord, were appointed as the Committee.

Mr. Trego, on the part of the Reporter, laid upon the table No. 43 of the Proceedings of the Society.

Stated Meeting, November 16.

Present, fourteen members.

Dr. PATTERSON, President, in the Chair.

A letter was read:—

From the Royal Geographical Society of London, dated 18th June, 1849, acknowledging the receipt of No. 41 of the Proceedings of the Society.

The following donations were announced:—

FOR THE LIBRARY.

- Monthly Notices of the Royal Astronomical Society, Vol. IX. No. 9. Supplement. London. 1849. 8vo.—*From the Society.*
- The American Journal of Science and Arts. Conducted by Professors Silliman and Dana. Second Series. No. 24. Nov. 1849. New Haven. 8vo.—*From the Editors.*
- The Medical News and Library. Vol. VII. No. 83. Nov. 1849. Philadelphia. 8vo.—*From Lea & Blanchard.*
- The African Repository and Colonial Journal. Vol. XXV. No. 11. Nov. 1849. Washington. 8vo.—*From the American Colonization Society.*

The Minutes of the Board of Officers and Council, at their last meeting, were read.

Stated Meeting, December 7.

Present, sixteen members.

Dr. PATTERSON, President, in the Chair.

The following letter, from the Secretary of the Academy of Natural Sciences of Philadelphia, was read.

“ Philadelphia, 6th Dec. 1849.

CHARLES B. TREGO, Esq.

Sir,—I have the honour of informing you, that at a meeting of the Academy of Natural Sciences of Philadelphia, held 27th November, your communication was duly received, as well as the resolution adopted by the American Philosophical Society, authorizing its Curators to deposit the fossil organic remains, belonging to the Society, with the Academy of Natural Sciences, upon certain conditions thereto annexed: whereupon it was moved, ‘ That the Curators of this Academy be authorized to receive said collection of organic remains, upon the conditions proposed by the American Philosophical Society, with power to modify said conditions should it appear necessary ;’ which, I have great pleasure in informing you, was adopted,

with a high sense of gratitude towards your distinguished Society, for the favour they conferred.

With sentiments of the highest respect,

I am, Sir, your friend and servant,

JOHN CASSIN,

Cor. Sec. Acad. Nat. Sci. Philada."

The following donations were announced:—

FOR THE LIBRARY.

The Quarterly Journal of the Chemical Society, of London. No. VII. Oct. 1, 1849. London. 8vo.—*From the Chemical Society.*

Summary of the Transactions of the College of Physicians of Philadelphia. Vol. II. No. 8. From May 1 to Oct. 2, 1849. Philadelphia. 8vo.—*From the College of Physicians.*

Letter to the Hon. John M. Clayton, Secretary of State, enclosing a Paper, Geographical, Political and Commercial, on the Independent Oriental Nations; and containing a Plan for opening, extending and protecting American Commerce in the East, &c. By Aaron Haight Palmer, Counsellor of the Supreme Court of the United States. Washington, 1849. 8vo.—*From the Author.*

Report of the Secretary of the Treasury, on the Warehousing System; made to the Senate of the United States, February 22, 1849. Washington. 8vo.—*From Charles B. Trego, Esq.*

The Medical News and Library: Vol. VII. No. 84. December, 1849. Philadelphia. 8vo.—*From Lea & Blanchard.*

An Essay on Cause and Effect; being an examination of Hume's doctrine that we can perceive no necessary connexion between them. By George Tucker, late Professor of Moral Philosophy in the University of Virginia, Member of the American Philosophical Society, &c. Philada., 1850. 8vo.—*From the Author.*

Mr. Coles announced the death of Mr. Wm. Short, a member of this Society, which occurred on the 5th inst., in the 91st year of his age.

The Treasurer presented his Annual Report, which was read. New nomination No. 232 was read.

Dr. Franklin Bache, Chairman of the Committee appointed on the 2d November last, on the arrangement and preservation of the "Franklin Manuscript Papers," made a report from

that Committee, recommending the adoption, by the Society, of the following resolutions :

Resolved, That a Committee be appointed to superintend the arrangement of the Franklin Manuscript Papers, in chronological order, with a view to their convenient binding in volumes; with power to engage the services of a person to perform the labour of arranging the papers and preparing a general index to the volumes.

Resolved, That a sum, not exceeding two hundred and fifty dollars, be appropriated to defray the expenses of arranging the papers, preparing the index, and binding the volumes.

Which resolutions were considered and adopted, and, under the first resolution, a Committee was appointed, consisting of Dr. Franklin Bache, Mr. Ord and Mr. Justice.

Stated Meeting, December 21.

Present, eleven members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From Dr. J. Hughes Bennett, dated Edinburg, 15th Nov. 1849 :—

From Dr. Leidy, dated Philadelphia, 12th December, 1849; both acknowledging the receipt of notice of their election as members of this Society:—

From the Royal Society of London, dated Somerset House, August, 1849, acknowledging the receipt of Vol. X. of the Transactions, and Nos. 36 to 40, inclusive, of the Proceedings of this Society: and,—

From the Historical Society of New Jersey, dated Newark, N. J., 30th November, 1849, announcing the transmission of a donation to this Society.

The following donations were announced :—

FOR THE LIBRARY.

Mémoires de l'Académie Royale des Sciences, des Lettres, et des Beaux Arts de Belgique. Tomes XXI. et XXII. Bruxelles, 1848. 4to.—*From the Royal Belgian Academy of Sciences, &c.*

VOL. V.—Q

- Mémoires Couronnés et Mémoires des Savants Etrangers: Publiés par l'Académie Royale des Sciences, des Lettres, et des Beaux Arts de Belgique. Tome XXI. 1846-7. Bruxelles, 1848. 4to.—*From the same.*
- Bulletins de l'Académie Royale des Sciences, &c. de Belgique. Tome XIV. 2ème Partie, 1847; et Tome XV. 1ère Partie, 1848. Bruxelles. 8vo.—*From the same.*
- Annuaire de l'Académie Royale des Sciences, &c. de Belgique: 14ème Année. Bruxelles, 1848. 12mo.—*From the same.*
- Annales de l'Observatoire Royale de Bruxelles: Publiées aux frais de l'Etat, par le Directeur A. Quetelet. Tome VI. Bruxelles, 1848. 4to.—*From the same.*
- Annuaire de l'Observatoire Royale de Bruxelles. Par A. Quetelet, Directeur de l'Etablissement. 1848. 15ème Année. Bruxelles. 12mo.—*From the same.*
- Catalogue des Livres de la Bibliothèque de l'Observatoire Royale de Bruxelles. Bruxelles, 1847. 8vo.—*From the same.*
- Rapport adressé à M. le Ministre de l'Intérieur, sur l'état et les travaux de l'Observatoire Royale pendant l'année 1847. Par M. le Directeur A. Quetelet. Bruxelles, 1847. 8vo.—*From the Author.*
- Observations des Phénomènes Periodiques. (Extrait du Tome XXI. des Mémoires de l'Académie Royale de Belgique.) Bruxelles. 4to.—*From the same.*
- Bulletin de la Société Impériale des Naturalistes de Moscou: Année 1844. Tome XVII. No. 4; et Année 1845. Tome XVIII. No. 1. Moscow, 1844-5. 8vo.—*From the Imperial Society of Naturalists of Moscow.*
- Philosophical Transactions of the Royal Society of London, for the year 1848. Parts 1 and 2; and Part 1, for 1849. London. 4to.—*From the Society.*
- List of the Council, Scientific Committees, and Fellows of the Royal Society of London, Nov. 30, 1847; and Nov. 30, 1848. London. 4to.—*From the same.*
- Proceedings of the Royal Society of London. Nos. 69, 70, 71 & 72, from Nov. 30, 1847, to Feb. 22, 1849. London. 8vo.—*From the same.*
- Address of the Most Noble, the Marquis of Northampton, the President: Read at the General Meeting of the Royal Society, on Tuesday, June 9, 1848. 8vo.—*From the same.*
- Observations made at the Magnetical and Meteorological Observatory

at Bombay, April—December, 1845, and printed by the Honourable East India Company, under the superintendence of Arthur Bradford Orlebar, A.M. Professor of Astronomy and Mathematics, Lincoln College, Oxford. Bombay, 1846. 4to.—*From the same.*

Meteorological Observations, Madras, 1841 to 1845, inclusive. Madras. 4to.—*From the same.*

Astronomical Observations made at the Royal Observatory, Edinburgh, by the late Thomas Henderson, F.R.S.L. & E., &c. Reduced and edited by his successor, Charles Piazzi Smyth, F.R.S. E., &c. Vol. VIII. for 1842. Edinburgh, 1849. 4to.—*From the Observatory.*

Barometrographia: Twenty years' variation of the Barometer in the climate of Britain, exhibited in autographic curves, with the attendant winds and weather; and copious notes illustrative of the subject. By Luke Howard, Esq. F.R.S. London, 1847. Folio. *From the Author.*

On the Barometrical Variation as affected by the Moon's declination. By Luke Howard, Esq. F.R.S. (From the Philosophical Transactions; Part 4 for 1846.) London, 1846. 4to.—*From the same.*

Elements of Electro-Biology, or the Voltaic Mechanism of Man;—of Electro-Pathology, especially of the Nervous System;—and of Electro-Therapeutics. By Alfred Smee, F.R.S., &c. &c. London, 1849. 8vo.—*From the Author.*

Directions for the use of a small Apparatus to be employed with a Ship's Standard Compass, for the purpose of ascertaining, at any time, whether at Sea or in Harbour, the *changing* part of the deviation in the point of the Compass, occasioned by the Ship's Iron; or that part of the deviation which is usually different in different parts of the Globe. By Lieut. Col. Sabine, R.A. London, 1849. 8vo.—*From the Author.*

Results of Observations made at the Magnetical Observatory of Dublin, during the years 1840–43. First Series. Magnetic Declination. By the Rev. Humphrey Lloyd, D.D., President of the Royal Irish Academy, F.R.S., &c. &c. (From the Transactions of the Royal Irish Academy; Vol. XXII. Part 1.) Dublin, 1849. 4to.—*From the Author.*

On the Mean Results of Observations. By the Rev. Humphrey Lloyd, D.D., President R. I. A., F.R.S., &c. &c. (Transactions of R. I. A. Vol. XXII. Part 1.) Dublin, 1849. 4to.—*From the same.*

- An Account of a Method of determining the total Intensity of the Earth's Magnetic Force, in absolute measure. By the same. (Proceedings of Royal Irish Academy, January 24, 1848.) 8vo. *From the same.*
- On the Corrections required in the Measurement of the Magnetic Declination. By the same. (Proceedings of R. I. A.) 8vo.—*From the same.*
- Annals and Magazine of Natural History, including Zoology, Botany, and Geology. Second Series. Vol. IV. No. 22. October, 1849. London. 8vo.—*From Sir William Jardine, Baronet.*
- Flora Batava, of Afbeelding en Beschrijving van Nederlandsche Gewassen: door Jan Kops, Hoogleeraar te Utrecht, &c. &c. en J. E. Van der Trappen, Med. Doct. Nos. 152 to 158, inclusive; with Title Page and Index to Vol. X. Amsterdam, 1849. 4to. *From H. M. the King of the Netherlands.*
- Contributions to Conchology. Nos. 1, 2, 3, 4, (8vo.); and Monograph of Stomatopoda, a new Genus of Operculated Land Shells. (4to.). By C. B. Adams, A.M. Professor of Zoology, &c. in Amherst College, Mass. Amherst, 1849.—*From the Author.*
- On Entophyta in Living Animals: New Species of Entozoa: and on Glandulæ Odoriferæ. By Joseph Leidy, M.D. (Extracted from the Proceedings of the Academy of Natural Sciences of Philadelphia, October, 1849.) 8vo.—*From the Author.*
- Selections from the Correspondence of the Executive of New Jersey, from 1776 to 1786. Published by order of the Legislature. Newark, N. J. 1848. 8vo.—*From the New Jersey Historical Society.*
- The Plough, the Loom, and the Anvil: J. S. Skinner, Editor. Vol. I. July, 1848, to July, 1849; and Vol. II. Nos. 1 to 6, July to December, 1849. Philadelphia. 8vo.—*From the Editor.*
- The African Repository and Colonial Journal. Vol. XXV. No. 12. December, 1849. Washington. 8vo.—*From the American Colonization Society.*
- Transactions of the Royal Society of Edinburgh. Vol. XVI. Part 5, for the Sessions 1848, 1849: and Vol. XIX. Part 1, containing the Makerstoun Magnetical and Meteorological Observations for 1845 and 1846. Edinburgh, 1849. 4to.—*From the Royal Society of Edinburgh.*
- Proceedings of the Royal Society of Edinburgh. Vol. II. Nos. 32, 33, 34. Edinburgh, 1848–9. 8vo.—*From the same.*

On motion of Mr. Ord, Dr. C. W. Short was appointed to prepare a necrological notice of the late Wm. Short.

Mr. Thomas Gilpin made some remarks upon the alleged influence of the moon upon the weather.

He did not mean to differ from Doctor Herschell as to the want of lunar influence upon the weather, but he thought if there was any, it was attributable to the change of her declination, and not to the effect of light, or to the change of her phases, however various and ostensible.

The condition of our atmosphere and seasons is effected by solar influence and the change of the sun's declination from the summer to the winter solstice, which being 47 degrees, takes a period of 183 days.

The influence of the moon on the land of the globe is scarcely acknowledged; but on the water of the globe it is far more powerful than that of the sun, and the change of declination of the moon is 10 degrees more than that of the sun, say 57 degrees, all of which is accomplished by her moving through one-half of one lunation, or in the short time of 14 days.

During the winter months, the new moon is always with the sun at its greatest southern declination at the tropic of capricorn, and her latitude, or declination, is about 28 degrees; but she has to pass in 14 days to be a full moon in the tropic of cancer, at a latitude or declination of 28 degrees north; in all about 57 degrees.

Near the equator, or the middle of this ascending path, she passes at the rapid rate of 7 to 8 degrees of declination per day, and the reverse of this in her descending path, from north to south, at the last half of her lunation with corresponding but contrary positions, during the summer circuit.

If the moon were to have any influence over our atmosphere in this rapid and mighty range, it would be to draw alternately a south atmosphere to the north, and a north atmosphere to the south, to moderate the cold of the winters, and the heat of the summers alternately in both hemispheres. But what effect the moon has upon the aerial volume in this respect has not yet been attended to.

These remarks are induced by the presentation of Mr. Luke Howard's papers to night, in which his observations show that the declination of the moon from north to south produces an effect on the barometer, which he has recorded in two positions in England, daily, during twenty years; the laborious and elegant tables of which,

now before us, include all these lunar variations during more than the Metonic period of 6940 days.

Mr. Luke Howard says in his summary—"It is to be inferred from these, that the barometrical mean is depressed by the moon's position in south declination—the depression is gradual—but upon the planet quitting her south position to return north, an elevation indicates a return of the pressure to its former position."

Prof. Frazer described an attempt which had been made by Prof. J. C. Cresson and himself, to repeat Biot's celebrated experiments upon the transmission of sound through iron pipes.

The pipe upon which they experimented was a gas main just laid in South street, from Broad to Ashton, and up Ashton, from South to Lombard. It was 4300 feet long and 8 inches in diameter, and had one turn, at right angles, at the corner of South and Ashton. This turn was made by a piece of pipe with four branches—two of which (the south and west) were plugged—the other two making the communication.

As the pipe was laid in the ground, with a mass of moist earth lying upon it, it was, perhaps, not to be expected that the vibrations excited in the iron would be propagated to any great distance, but the experimenters found, to their surprise, that even the heavy blows of the sledge upon the inner part of the pipe were not communicated through the air. They had provided themselves with hammers and bells for the purpose of making the signals, but in consequence of the very strong language used by M. Biot in describing his experiments, they had not taken the precaution to provide pistols for explosions. It appears, that in the French experiments there were two bends in the pipe, but at what angle is not mentioned in any account which we have been able to obtain, (as it appears that the *Memoires de la Société d'Arceuil*, in which the original account of the experiments is contained, is not in any library in this city).

As it was necessary to connect the pipe under experiment with the other mains without delay, it was not possible to pursue the experiments any farther, but Profs. C. and F. hope to have, during the approaching summer, an opportunity of repeating them upon another pipe, and under more favourable circumstances, so as to detect, if possible, the cause of their present failure.

The annual report of the Publication Committee was presented by Mr. Lea.

The annual report of the Committee on Finance was presented by Mr. Lea.

The annual appropriations recommended by the Committee, were adopted.

Pending nomination, No. 232, was read.

Stated Meeting, January 4.

Present, eleven members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

The judges and clerks of the election held this day, reported the appointment of the following officers:—

President.

Robert M. Patterson, M.D.

Vice-Presidents.

Franklin Bache, M.D.

Alexander Dallas Bache, LL.D.

Hon. John K. Kane.

Secretaries.

Robley Dunglison, M.D.

Prof. John F. Frazer,

Charles B. Trego,

Prof. E. Otis Kendall.

Members of the Council for Three Years.

Robert Hare, M.D.

William Hembel,

Charles D. Meigs, M. D.

Henry Vethake,

George M. Justice,

For one year, in place of Mr. W. Short, deceased.

Curators.

Franklin Peale,

John Price Wetherill,

John C. Cresson.

Treasurer.

Benjamin W. Richards.

The following donations were announced:—

FOR THE LIBRARY.

- Transactions of the Royal Irish Academy. Vol. XXII. Part 1. Dublin, 1849. 4to.—*From the Academy.*
- Proceedings of the Royal Irish Academy. Vols. II. III. and Parts 1 & 2 of Vol. IV. Dublin, 1849. 8vo.—*From the same.*
- Journal of the Franklin Institute. Third Series. Vol. XVIII. No. 6. Dec. 1849. Philadelphia. 8vo.—*From the Institute.*
- On the Diurnal Variations in the Declination of the Magnetic Needle, and in the Intensities of the Horizontal and Vertical Magnetic Forces. By William A. Norton, Prof. of Math. & Nat. Phil. in Delaware College. (Extract from American Journal of Science and Arts. Vol. VIII. Second Series. 1849.)—*From the Author.*
- The American Journal of the Medical Sciences. No. XXXVII. New Series. January, 1850. Philadelphia. 8vo.—*From Dr. Isaac Hays, Editor.*
- The American Journal of Science and Arts. Second Series. No. 25. January, 1850. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*
- Report on the Finances of the Commonwealth of Pennsylvania, for the year ending November 1, 1849; made to the Governor by the Auditor-General, agreeably to law. Harrisburg, 1849. 8vo. *From Benjamin Matthias, Esq.*
- Relacion Historica del Viage a la America Meridional, hecho del Orden de S. Mag. para medir algunos grados de Meridiano Terrestre, y venir por ellos en conocimiento de la verdadera Figura y Magnitud de la Tierra, con otras varias Observaciones Astronomicas y Phisicas. Por Don Jorge Juan, y Don Antonio de Ulloa. Madrid, 1748. 4 Vols. 4to.—*From Professor J. F. Frazer.*
- Observaciones Astronomicas y Phisicas, hechas de orden de S. M. en los Reynos del Peru. Por Don Jorge Juan, y Don Antonio de Ulloa: De los quales se deduce la Figura y Magnitud de la Tierra, y se aplica a la Navegacion. Madrid, 1773. 4to.—*From the same.*

Prof. Frazer called the attention of the Society to an interesting paper by Prof. James D. Dana, "On the Denudation of the Pacific," published in the last number of the American Journal of Science and Arts. This gave rise to a discussion

by Prof. Frazer, Mr. Trego, Mr. Justice, and Dr. B. H. Coates, on the subject of denudation, volcanic action, and of the geological phenomena as connected with certain irregular conformations of the earth's surface in various parts of the globe, also in reference to the apparent features of the surface of the moon.

Pending nomination, No. 232, and new nomination, No. 233, were read.

Stated Meeting, January 18.

Present, sixteen members.

Dr. PATTERSON, President, in the Chair.

A letter was read:—

From the Geological Society of London, dated 8th November, 1849, acknowledging the receipt of No. 42, Vol. V. of the Proceedings of the Society.

The following donations were announced:—

FOR THE LIBRARY.

Memoirs of the Royal Astronomical Society. Vol. XVII. London, 1849. 4to.—*From the Society.*

Monthly Notices of the Royal Astronomical Society. Vol. VIII., from November, 1847, to June, 1848. London. 8vo.—*From the same.*

Quarterly Journal of the Geological Society. No. 20. Nov. 1, 1849. London. 8vo.—*From the Society.*

Proceedings of the New Jersey Historical Society. Vol. IV. No. 3. 1849. 8vo.—*From the Society.*

Annals of the Lyceum of Natural History of New York. Vol. V. No. 1. May, 1849. 8vo.—*From the Lyceum.*

The Pennsylvania Journal of Prison Discipline and Philanthropy. Vol. V. No. 1. January, 1850. 8vo.—*From the Philadelphia Prison Society.*

The African Repository and Colonial Journal. Vol. XXII. No. 1. January, 1850. Washington. 8vo.—*From the American Colonization Society.*

The Annals and Magazine of Natural History, including Zoology, Botany and Geology. Second Series. Vol. IV. Nos. 23 & 24.

VOL. V.—R

Nov. and Dec. 1849. London. 8vo.—*From Sir William Jardine, Baronet.*

The British Almanac of the Society for the Diffusion of Useful Knowledge, for the year of our Lord, 1850. London. 8vo.—*From Petty Vaughan, Esq.*

Notice sur le Crioceras Voronzovii de Sperk. Par G. Fischer de Waldheim. Moscow, 1849. 4to.—*From the Author.*

Annali di Fisica dell' Abbate Francesco Cav. Zantedeschi, Professore di Fisica nell' I. R. Università di Padova. Fascicolo 1. Padova, 1849-50. 8vo.—*From the Author.*

The Plough, the Loom and the Anvil. Vol. II. No. 7. January, 1850. Philadelphia. 8vo.—*From J. S. Skinner, Editor.*

The Medical News and Library. Vol. VIII. No 85. January, 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*

Mr. Trego announced the death of the Rev. Dr. Samuel Miller, of Princeton, a member of this Society. He died at Princeton, on Monday, the 7th inst., in the 81st year of his age.

Mr. Justice presented, for the inspection of members, a mass of marine matter, containing a Spanish silver dollar, incrustated about a cannon-ball, taken from the wreck of the San Pedro, wrecked on the Spanish main some forty years ago.

Mr. Charles B. Trego was appointed Librarian for the ensuing year.

The following named gentlemen were appointed on the Standing Committees of the Society:—

Committee of Finance.—Dr. Patterson, *Chairman*, Mr. Lea, Mr. Wagner.

Committee on the Hall.—Judge Kane, *Chairman*, Mr. Fraley, Mr. F. Peale.

Committee on the Library.—Dr. Isaac Hays, *Chairman*, Mr. G. Campbell, Mr. Ord.

Committee on Publication.—Mr. Lea, *Chairman*, Dr. Hays, Mr. Fisher.

The catalogue of the surviving members of the Society, was read. The number on the list on the first instant, was 364; of whom there are resident in the United States 252, and in foreign countries 112.

There being no quorum present for the purpose, no election for members was held.

Pending nominations, Nos. 232 and 233, were read.

The Librarian was directed to furnish to Amherst College as perfect a copy of the Proceedings of this Society as can be obtained from the unbound numbers.

Stated Meeting, February 1.

Present, fourteen members.

JUDGE KANE, Vice-President, in the Chair.

Letters were read:—

From the Royal Academy of History at Madrid, dated Madrid, 4th August, 1849:—

From the American Academy of Arts and Sciences, dated Boston and Cambridge, Mass.. 29th January, 1850; announcing the transmission of donations to this Society:—

From Wm. H. Prescott, dated Boston, 22d January, 1850, presenting to the Society, by the request, and in the name of, Don Lucas Alaman, of Mexico, three volumes, by the last named gentleman, on the History of Mexico: and—

From the Society of Antiquaries at London, dated Somerset House, 22d November, 1849, acknowledging the receipt of Nos. 41 and 42, Vol. V. of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Executive Documents: Second Session of the Thirteenth Congress of the United States, 1848–9. 7 vols. 8vo. Washington.—*From the Department of State.*

Journal of the Senate of the United States: 2d Session of the 30th Congress; and Special Session, commencing March 5, 1849. 1 vol. 8vo.—*From the same.*

Documents printed by order of the Senate of the United States, during the 2d Session of the 30th Congress. 1848–9. 4 vols. 8vo.—*From the same.*

Miscellaneous Documents, printed by order of the Senate of the United States during the 2d Session of the 30th Congress. 1848–9. 2 vols. 8vo.—*From the same.*

- Reports of Committees, printed by order of the Senate of the United States, during the 2d Session of the 30th Congress. 1848-9. 1 vol. 8vo.—*From the same.*
- Public Documents, printed by order of the Senate of the United States, during a Special Session, begun and held March 5, 1849. 1 vol. 8vo.—*From the same.*
- Journal of the House of Representatives of the United States: Second Session of 30th Congress. 1848-9. 1 vol. 8vo.—*From the same.*
- Reports of Committees of the House of Representatives of the United States: 2d Session of 30th Congress. 1848-9. 2 vols. 8vo.—*From the same.*
- Miscellaneous Documents, printed by order of the House of Representatives, during the 2d Session of the 30th Congress. 1848-9. 1 vol. 8vo.—*From the same.*
- Proceedings of the American Antiquarian Society: Annual meeting at Antiquarian Hall, Worcester, Mass., Oct. 23, 1849. Cambridge. 8vo.—*From the Society.*
- Reports of the Commissioners appointed to inquire into the Conduct, Discipline and Management of the Provincial Penitentiary of Canada; with the Documents transmitted by the Commissioners. Published by order of the Legislative Assembly. Montreal. 1849. 4to.—*From the Commissioners.*
- Disertaciones sobre la Historia de la Republica Megicana, desde la epoca de la Conquista que los Españoles hicieron a fines del siglo XV. y principios del XVI. de las Islas y Continente Americano, hasta la Independencia. Por D. Lucas Alaman. Tomos 1 and 2. Megico, 1844. 8vo.—*From the Author.*
- Historia de Mejico desde los primeros movimientos que prepararon su Independencia en el Año de 1808, hasta la epoca presente. Por D. Lucas Alaman. Parte Primera. Tomo 1. Mejico, 1849. 8vo.—*From the same.*
- Passages from the Diary of Christopher Marshall, kept in Philadelphia and Lancaster during the American Revolution. Edited by William Duane, Mem. Hist. Soc. Penna. Vol. I. 1774 to 1777. Philada. 1839, 1849. 8vo.—*From Prof. J. F. Frazer.*
- Journal of the Franklin Institute. Third Series. Vol. XIX. No. 1. January, 1850. Philada. 8vo.—*From the Institute.*
- Memoirs of the American Academy of Arts and Sciences: New Series. Vol. IV. Part 1. Cambridge and Boston. 1849. 4to.—*From the Academy.*

The Plough, the Loom and the Anvil : Vol. II. No. 8. Feb. 1850.

Philada. 8vo.—*From the Editor, J. S. Skinner, Esq.*

Memoria Historica—Critica sobre el Gran Disco de Theodosio, encontrado en Almendralejo;—leida a la Real Academia de la Historia, por su anticuario Don Antonio Delgado, en la junta ordinaria de 9 de Setiembre, de 1848. Madrid. 1849. 8vo.—*From the Royal Academy of History, Madrid.*

William Penn and Thomas B. Macaulay : being brief Observations on the Charges made in Mr. Macaulay's History of England, against the Character of William Penn. By W. E. Forster. Revised for the American edition, by the Author. Philada. 1850. 8vo.—*From Dr. Benjamin H. Coates.*

Mr. Trego called the attention of the members of the Society to the very interesting Memoir of Don Antonio Delgado, upon the disc of the Emperor Theodosius, presented this evening, from the Royal Academy of Madrid.

This memoir is in the Spanish language, and contains a very minute and interesting account of a curious relic of antiquity, which, after having lain buried, as the author thinks, for fourteen centuries, has been recently brought to light.

It was found near Almendralejo, a town in the province of Badajoz, situated four leagues south of Merida, and nine leagues from the city of Badajoz, in Spain, not far from the frontier of Portugal. It was discovered by a labourer who was clearing a piece of ground for cultivation, and who, in digging, perceived that the instrument, with which he was working, struck against some metallic body. Being disinterred, it proved to be a disc, or circular plate of silver, having a diameter of thirty-two inches, and weighing five hundred and thirty-three ounces and five-eighths. On one of its sides are represented a Roman emperor and other figures and emblems, in bas relief, with an inscription around the border. Accompanying the memoir is an engraved representation of this side of the disc, and the memoir itself contains an elaborate and learned investigation of the purport of the figures, emblems and inscriptions. Among other important results of his examination, Senor Delgado arrives at the following :

That this disc was constructed by order of the Emperor Theodosius the Great, on the day of the celebration of his *quindecennalia*, the 19th of January, in the year 393 of the Christian era.

That this public act took place, if not on the same day, within a

few days of the ceremony of conferring upon Honorius, the younger son of Theodosius, the title of Augustus, and his consequent elevation to the imperial dignity by his father.

That also at this time Theodosius, with his sons Arcadius and Honorius, were recognized in Lusitania as the only legitimate sovereigns, after the death of Valentinian the younger, and that the authority of Eugenius, the tyrant, was not recognised in this province, as some have believed.

That the disc contains a representation of the act of delivering to the magistrate of a province the book or code of precepts for the discharge of his duty, which had to be certified in the act of the *quindecennialia*, because this had reference to the continuance in office or delegation of the imperial authority, in like manner as the emperors prorogued or conferred anew the power of command in the provinces to their delegates.

That this disc was made at Constantinople, then the seat of empire, and is a *clipeus*, such as the emperors were accustomed to order, to be used at the time their inauguration was proclaimed, bearing their image, and in order that the magistrates might use them in their public acts; elevating these insignia before them, and displaying them while sitting in judgment on their tribunals.

The writer of the memoir considers the discovery of this disc as being important in a historical point of view, inasmuch as it appears to correct and fix the chronology of certain acts, and establishes facts hitherto considered as obscure. At the same time it shows, well preserved and in exact detail, the costume worn by the emperors in these public solemnities, as well as those used by their domestics and attendants, and the form of the imperial images transmitted to the provinces, to be displayed before the magistrates in discharging the duties of their office. It also gives an idea of the condition of the arts in the time of Theodosius, and of the transition of the Greco-Roman style to the Byzantine.

This valuable relic now belongs to the Royal Academy of History, at Madrid; the learned antiquary of the Academy, Don Antonio Delgado, being the author of the memoir.

Mr. Trego announced the death of the Hon. John Reed, a member of this Society, who died at Carlisle, Pennsylvania, on Saturday, the 19th day of January, 1850, in the 64th year of his age.

Mr. Trego stated, that he had recently had occasion to exa-

mine an ancient manuscript volume, the original letter-book of James Steel, Receiver-General under Thomas and Richard Penn, Proprietaries of Pennsylvania, in which he found some interesting information concerning the celebrated "Indian walk," performed in 1737, by which the extent and northern boundary of a former purchase of land from the Indians were determined.

Mr. Trego said that among the several deeds given by the Indians for the purchase of land from them in Pennsylvania, by William Penn and his agents, was one dated July 15, 1682, procured at a treaty held with the Indians by William Markham, Penn's deputy-governor, a short time before the arrival of Penn himself in the colony. This deed sets forth that certain Indian chiefs, for themselves and their people, grant to William Penn the land on the Delaware river, extending from a white oak near the Gray-stones, (the rocks on the bank of the river opposite to the falls at Trenton), up the said river side to a corner marked spruce tree; and thence westward to the creek called Neshamony, and along the said creek to the river Delaware, alias Makerisk-kitton; and so bounded by the said river to the said first-mentioned white oak, &c.

The next purchase of land on the Delaware above this tract, appears to have been by a deed alleged to have borne date August 28, 1686, though the deed itself is not to be found. It is, however, referred to, recognised in, and confirmed by the deed of 1737. The limits of this purchase were defined as follows: "Beginning upon a line formerly laid out from a corner spruce-tree by the river Delaware, (Makerisk-kitton), and from thence running along the ledge or foot of the mountains west-south-west* to a corner white-oak, marked with the letter P. standing by an Indian path that leadeth to an Indian town called Playwickey; and from thence extending westward to Neshamony creek; *from which said line* the said tract or tracts

* Some copies read west-north-west; but this is manifestly an error. A west-north-west course from the spruce-tree would not run "along the ledge or foot of the mountains." The ridges of high lands in that region extend from the river in a west-south-west direction, and would be crossed by a west-north-west line. Nor would this course lead towards the point which is universally admitted by written documents and traditionary accounts, as the place from which the Indian walk commenced. John Watson, of Bucks county, who was acquainted with the local topography of the neighbourhood, in his account of this walk, written in 1815, gives the course west-south-west, as taken from the original deed.

hereby granted, doth extend itself back into the woods *as far as a man can go in one day and an half*; and bounded on the westerly side by the creek called Neshamony, or the most westerly branch thereof, as far as the said branch doth extend; and from thence by a line — (blank in the deed) to the utmost extent of the one day and an half's journey; and from thence — (blank in the deed) to the aforesaid river Delaware; and from thence down the several courses of the said river to the said first mentioned spruce-tree," &c.

The spruce-tree referred to in both of these grants is said to have stood on the river bank, 140 perches above the mouth of Baker's, now known as Knowles' creek, and about 10 miles above the falls at Trenton. The white-oak mentioned as a corner in the line from the spruce-tree to Neshamony, according to traditionary account, was on land now of Moses Hampton, about a mile north-eastward from the Friends' meeting-house at Wrightstown.

After the grant of August, 1686, numerous white settlers established themselves on the lower part of the purchase; the settlements gradually extended northward as far as Durham, in the upper part of Bucks county, where a furnace was erected, and some of the scattering frontier establishments of the white people reached as far as to the Lehigh hills. The country in the forks of the Delaware, between the Lehigh hills and the Blue mountain was then favourite ground with the Indians, and was the chief place of abode for many of them. Becoming uneasy at the near approach of the white settlements they naturally desired to have a limit placed upon these encroachments, and accordingly a treaty was begun at Durham in 1734, which was continued at Pennsbury in May, 1735, and concluded at Philadelphia, Aug. 25, 1737, at which the limits of the tract, as described in the deed alleged to have been made for the purchase in 1686, were confirmed, and at which it was agreed that the walk which was to determine the extent of the territory to the northward should be performed. It seems to have been expected by the Indians that this walk would not extend beyond the Lehigh hills, about 40 miles from the place where it was to begin; nor would it have reached beyond them, if performed after the manner in which some similar measurements are said to have been made in the time of William Penn,—the walkers proceeding leisurely, and sometimes sitting down to eat, drink, and smoke their pipes. But those who succeeded William Penn were not governed by those principles of generosity and justice which ever characterized his intercourse with the aboriginal proprietors of the soil, and which procured for him such

high regard and respect among them. To their veneration and love for him may justly be attributed the peace and harmony which, for so many of the early years of the infant colony of Pennsylvania, subsisted between his people and the Indians.

By the time when it was agreed that the walk of 1737 should be performed, it had become an anxious object with the then proprietaries of the province, to obtain possession of the land in the forks of the Delaware, and even further up the river, so as to include the Minisink land, a desirable tract along the river above the Blue mountain. This could only be attained by extending the walk as far as possible north-westward, and then running a line from its termination, by a *proper* course, to the Delaware. In order to ascertain how far the walk could be made to extend, it appears that an experimental essay, or *trial walk*, was previously made, probably without the knowledge of the Indians. From the several accounts of the "Indian walk," that have been written and published, it does not seem that the writers on this subject have been aware that a trial, or experimental walk, took place previous to the one appointed with the Indians, and at which they attended.

The original letter-book of James Steel, Receiver-General under Thomas Penn, contains some interesting evidence upon this subject. To Timothy Smith, then Sheriff of Bucks county, Steel writes as follows, under date of 26th of 2d month (April), 1735: "The Proprietaries are impatient to know what progress is made in travelling over the land that is to be settled in the ensuing treaty that is to be held with the Indians at Pennsbury on the fifth day of the next month, and therefore I now desire thee, without delay, to send down an account of what has been done in that affair; and if any thing is omitted or neglected which should have been pursued, the same may be yet performed before the intended time of meeting the Indians:—Pray fail not of doing every thing that was proposed to thyself and John Chapman, at Philadelphia, that no disappointment may be the means of a delay in the business of the treaty."

Three days after this, he writes to John Chapman and Timothy Smith: "The Proprietaries are very much concerned that so much time hath been lost before you begun the work recommended so earnestly to you at your leaving Philadelphia, and it being so very short before the meeting at Pennsbury, the fifth of the next month, that they now desire that upon the return of Joseph Doane, he, together with two other persons who can travel well, should be immediately sent on foot on the day and half journey, and two others on horse-

back to carry necessary provision for them and to assist them in their return home. The time is now so far spent that not one moment is to be lost; and as soon as they have travelled the day and half journey, the Proprietaries desire that a messenger may be sent to give them account, without any delay, how far that day and half travelling will reach up the country. Pray use your utmost diligence, and let nothing be wanting to be done on this important occasion, which will give great satisfaction to the Proprietaries, who will generously reward you, and those you employ, for your care and trouble."

The matter was not, however, definitely settled at the meeting with the Indians at Pennsbury; nor was it until the final treaty at Philadelphia in August, 1737, that it was agreed that the land should actually be measured out by the walk. Immediately after this, viz., on the 27th of 6th mo., (August), Steel writes as follows to Timothy Smith: "The treaty which was begun at Durham, and afterwards held at Pennsbury, is now finished at Philadelphia, and the time appointed for walking over the land. It is to be the twelfth day of September next, and for that purpose our Proprietor would request thee to speak to that man of the three which travelled and held out the best when they walked over the land before, to attend that service at the time mentioned, when Solomon Jennings is expected to join, and travel the day and a half with him. Thou art also requested to accompany them, and to provide such provisions for those men as may be needful on the occasion desired:—John Chapman also to go along and with you,—and be sure to choose the best ground and shortest way that can be found. The Indians intend that two or three of their young men shall be present, and see the land fairly walked over."

Though, as has been shown, the 12th of September, 1737, was the day appointed for commencing the walk, it was postponed to the 19th, as we learn by a letter from Steel to Solomon Jennings, one of the men employed on the part of the Proprietary government to perform the walk. In this letter Jennings is informed of the postponement, for the reason that the day first appointed would occur during the term for holding the Supreme Court and Court of Quarter Sessions for Bucks county, which rendered it inconvenient for the Sheriff and some other persons appointed, to attend the walk on that day.

The place agreed upon as the point at which the walk was to commence, was a chestnut-tree standing near the present site of Wrightstown meeting-house, on or near the line from the corner white-oak marked P. to Neshamony creek, mentioned in the deeds above re-

ferred to as the boundary of the original purchase. The precise place at which this line struck the Neshamony does not seem to be clearly known; but is supposed to have been near the "high rocks," below the bridge on the present turnpike-road from Richborough to Pineville. A line from the corner white-oak to this point would pass very near to the meeting-house at Wrightstown, and we may hence suppose the chestnut-tree was selected as being on, or very near that line. This, however, is not "westward" from the white-oak, but south-westward, and if the line did actually reach the Neshamony at the place mentioned, as it appears to have done, it affords another example of great neglect of accuracy in tracing the limits of the early purchases of land in Pennsylvania.

The persons employed on the part of the Proprietaries to perform the walk were Edward Marshall, James Yeates and Solomon Jennings; and these were accompanied during the first day by some of the Indians. Mr. Watson, in his account of the walk (Hazard's Register of Pennsylvania, Vol. VI. p. 209) says that many of the circumstances relating to it were obtained by him from Moses Marshall, a son of one of the men appointed to perform it. At sun-rise they started from the chestnut-tree already mentioned, many persons having assembled there, a number of whom, on horseback, accompanied the walkers, carrying refreshments for them. The men employed are said to have been famous for their ability as fast walkers, and they were to have a compensation of five pounds in money and five hundred acres of land. They walked moderately at first; but soon quickened their march, so that the Indians frequently called to them to *walk* and not to *run*; but these remonstrances producing no effect, most of the Indians left them in anger at such conduct, saying they were cheated. An old Indian said "no sit down to smoke, no shoot squirrel, but lun, lun, lun, all day long." Jennings and two of the Indian walkers gave out before the close of the first day, being unable to keep up with the others; but Marshall, Yeates, and one Indian kept on, and arrived at sun-set on the north side of the Blue mountain. At sun-rise next morning they started again; but when crossing a stream at the foot of the mountain, Yeates became faint, and fell. Marshall turned back and supported him until some of the attendants came up, and then continued the walk by himself. At noon, the hour when the walk was to terminate, he had reached a spur of the Second, or Broad mountain, estimated to be eighty-six miles from the point of starting at the chestnut-tree.

Having thus reached the furthest possible point to the north-west-

ward, it now remained to draw a line from the end of the walk to the river Delaware. The course of this line not being prescribed in the deed of purchase, the agent of the Proprietaries, instead of running by the nearest course to the river, ran north-eastward across the country, so as to strike the Delaware near the mouth of the Lackawaxen, thus extending far up the river, taking in all the Minisink territory, and many thousand acres more than if they had run by the nearest course to the Delaware. In relation to this part of the survey, we find, in Steel's letter-book, the following passage in a letter to Letitia Aubrey, the daughter of William Penn, dated November, 1737: "In September last the old Indian purchase was circumscribed according to the deed produced and proved at Pennsbury when a treaty was held there in thy presence; and the Surveyor General and my nephew, who attended the people that walked over the land, and afterwards continued their journey from the upper point or end of the day and half walk to the river Delaware, *which employed them about four days*, informed me at their return home, that after they crossed the great ridge of mountains they saw very little good or even tolerable land fit for settlements."

It is well known that the Delaware Indians immediately saw and complained of the manner in which these things were done, as a fraud upon them; nor would they relinquish the land until compelled to do so by the deputies of the Six Nations at the treaty of 1742. In a pamphlet written by Charles Thomson, and published at London in 1759, entitled "An Enquiry into the Causes of the Alienation of the Delaware and Shawanese Indians from the British Interest, &c.," the proceedings at this walk are mentioned as one of the causes of the hostile feelings on the part of the Indians, which eventually led to war and bloodshed. This pamphlet contains the statements of Thomas Furniss and Joseph Knowles, who were both present at the walk. Furniss resided at Newtown, and was a near neighbour to Yeates, one of the walkers. He says that when the men started he was a little behind, but was informed they proceeded from a chestnut-tree, near the turning out of the road from Durham road to John Chapman's; that being on horseback, he overtook them before they reached Buckingham, and kept company for some distance beyond the Blue mountain, though not quite to the end of the journey. Some Indians attended, whom he considered as deputies appointed by the Delaware nation, to see the walk honestly performed. One of these repeatedly expressed his dissatisfaction, and during the first day of the walk this Indian said the walk was to have been made up the river. In the

afternoon of that day the Indians left them, having frequently called to Marshall and forbid him to run. At parting they appeared dissatisfied, and said they would go no further, for, as they saw the walkers would pass all the good land, they did not care how far or where we went. Timothy Smith, then sheriff of Bucks, held his watch in his hand for some minutes before we stopped in the evening, and called out to the walkers, telling the minutes behind the time, and bid them pull up, which they did so briskly that immediately upon his saying the time was out, Marshall clasped his arms about a small tree to support himself, saying he was almost gone, and that if he had proceeded a few rods further he must have fallen. Next morning, he says, the Indians were sent to, to know if they would accompany us any farther, but they declined it. Indeed the unfairness practised in the walk, both in regard to the way where, and the manner how, it was performed, and the dissatisfaction of the Indians concerning it, were the common subjects of conversation in our neighbourhood for some considerable time after it was done. Joseph Knowles says, that at the time of the walk he lived with his uncle Timothy Smith, and was present on the occasion to carry provisions, liquors, &c. About sun rise they set out from John Chapman's corner, at Wrightstown, and travelled until about one o'clock of the day, when the Indians began to look sullen, and murmured that the men walked so fast,—calling out several times during the afternoon, “You run, that is not fair,—you was to walk.” The men appointed to walk paid no regard to the Indians; but were urged by Timothy Smith, and the rest of the Proprietor's party, to proceed until the sun was down. We lodged in the woods that night. Next morning, being dull rainy weather, we set out by the watches, and two of the three Indians that walked the day before came and travelled with us about two or three miles, and then left us, being very much dissatisfied, and we proceeded by the watches until noon.

It appears, then, from the written statements of persons who were present at the walk, as well as from various traditionary accounts of the proceedings connected with it, that there was a studied intention, and a preconcerted scheme on the part of the proprietary agents, to extend the walk as far as possible in the most favourable direction; and that a line was drawn from its termination by such a course to the river as should include within the limits of the survey, all the desirable land in the forks of Delaware, and along the river, above the Blue mountain. The extracts from Steel's Letter Book prove that a trial was previously made of the extent to which the walk

might be pushed; and the accounts of the manner in which the final walk was performed show the spirit in which the stipulations of a treaty, made in the days of the just, moderate and conscientious founder of Pennsylvania, were carried out by the agents of his successors.

Mr. Justice called the attention of the Society to several printed papers recently found among the "Franklin Manuscripts," one of which showed the antiquity of the bent-timber fellow for wheels; another contained the announcement of a new metallic alloy called "argiroides;" and the third exhibited the circular mode of barometric record, similar to that used by Mr. Luke Howard.

The original commission of Benjamin Franklin, as colonel of a regiment of militia, also found among the Franklin papers, was laid upon the table by Mr. Trego, for the inspection of members. The document is dated 24th February, 1756.

Pending nominations, Nos. 232 and 233, were read.

Stated Meeting, February 15.

Present, twelve members.

Dr. PATTERSON, President, in the Chair.

A letter was read:—

From the Librarian of Amherst College, dated Amherst College, 7th February, 1850, acknowledging the receipt of a series of the "Proceedings of the American Philosophical Society," from the beginning, presented to the College by this Society, and returning thanks for the donation.

The following donations were announced:—

FOR THE LIBRARY.

Quarterly Journal of the Chemical Society of London. No. VIII.
Jan. 1, 1850. London. 8vo.—*From the Society.*

Annual Report of the Trustees of the State Library of the State of New York: made to the Legislature, Jan. 15, 1850. Albany.
8vo.—*From the Trustees of the New York State Library.*

Journal of the Academy of Natural Sciences of Philadelphia. New Series. Vol. I. Part 4. Philadelphia, 1850. 4to.—*From the Academy.*

The African Repository and Colonial Journal. Vol. XXVI. No. 2. February, 1850. Washington. 8vo.—*From the American Colonization Society.*

Three Lectures preliminary to a Course on the Principles and Practice of Surgery, delivered on the 4th, 8th and 9th of October, 1849, before the Medical Class of the University of Pennsylvania. By William Gibson, M.D., L.L.D., Professor of Surgery, &c. Philadelphia. 1850. 8vo.—*From the Author.*

An Obituary Notice of Thomas T. Hewson, M.D. late President of the Philadelphia College of Physicians. By Franklin Bache, M.D. Read before the College, Nov. 6, 1849, and published by its direction. Philadelphia, 1850. 8vo.—*From the Author.*

Introductory Lecture to the Course of Chemistry delivered in Jefferson Medical College, Oct. 16, 1849. By Franklin Bache, M.D. Published by order of the Class. Philadelphia, 1849. 8vo.—*From the same.*

The Medical News and Library. Vol. VIII. No. 86. February, 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*

Contributions to Conchology. No. 4. By Prof. C. B. Adams. Amherst, Mass. 8vo.—*From the Author.*

Professor Frazer brought to the attention of the Society, a recent experiment of M. Verdet, of France, by which he has experimentally shown the truth of Prof. Henry's explanation of the secondary inductive electric current; also an experiment of Mr. Fizeau, by which the velocity of light may be experimentally determined.

Mr. Justice inquired concerning the explanation of the lateral shock, which gave rise to a discussion, in which Mr. Justice, Mr. Trego, Dr. Elwyn, and Prof. Frazer participated.

The minutes of the last meeting of the officers and council, were read.

Pending nominations, Nos. 232 and 233, and new nominations, 234, 235, 236 and 237, were read.

Stated Meeting, March 1.

Present, twenty members.

Dr. PATTERSON, President, in the Chair.

Mr. Richard A. Tilghman, elected a member of the Society in 1847, during his absence in Europe, having recently returned to this city, was introduced to the President, and took his seat.

Letters were read:—

From Prof. Zantedeschi, dated Padova, 25th December, 1849, announcing the transmission of a donation to the Society: and—

From the Royal Institution of Great Britain, dated Albemarle street, 29th December, 1849, acknowledging the receipt of No. 43, of the Proceedings of this Society.

Prof. Frazer called the attention of the Society to the value of the work presented by Professor Zantedeschi, entitled “*Annali di Fisica.*”

The following donations were announced:—

FOR THE LIBRARY.

Bulletin de la Société de Géographie. 3ème Série. Tome XI. Paris, 1849. 8vo.—*From the Geographical Society of Paris.*

Journal Asiatique. 4ème Série. Tome XIII. No. 65, et Tome XIV. Nos. 66, 67 & 68. Juin à Octobre, 1849. Paris. 8vo.—*From the Asiatic Society of Paris.*

Annali di Fisica dell’ Abbate Francesco Cavaliere Zantedeschi, Professore, &c. Fascicolo II. Padova, 1849–50. 8vo.—*From the Author.*

Transactions of the Society for the Encouragement of Arts, Manufactures and Commerce. New Series. Vol. I. Parts 1 & 2. London, 1847–9. 4to.—*From the Society.*

The Annals and Magazine of Natural History, including Zoology, Botany, and Geology. 2d Series. Vol. V. No. 25. January, 1850. London. 8vo.—*From Sir William Jardine, Baronet.*

Report of the Select Committee of the Assembly of the State of New York, appointed to investigate the matters connected with the

- publication of the State Work on Natural History. Albany, 1850.—*From the Trustees of the New York State Library.*
- Summary of the Transactions of the College of Physicians of Philadelphia, from Nov. 6, 1849, to Jan. 15, 1850. Vol. III. No. 1. Philadelphia. 8vo.—*From the College of Physicians.*
- Journal of the Franklin Institute. 3d Series. Vol. XIX. No. 2. February, 1850. Philadelphia. 8vo.—*From the Institute.*
- Monograph of Vitrinella, a new genus of new species of Turbinidæ. By C. B. Adams, A.M. Amherst, Mass. 1850. 4to.—*From the Author.*
- Contributions to Conchology. No. 5. By Prof. C. B. Adams, of Amherst College, Mass. 8vo.—*From the same.*
- Descriptions of two new species of Distoma, with the partial history of one of them. By Joseph Leidy, M.D. Philadelphia. 4to.—*From the Author.*
- Report of the Select Committee of the Senate of Pennsylvania, in relation to the Bridge across the Ohio river, at Wheeling, Virginia. Harrisburg, 1850. 8vo.—*From B. Matthias, Esq.*
- The Plough, the Loom and the Anvil. Vol. II. No. 9. March, 1850. Philadelphia. 8vo.—*From J. S. Skinner, Editor.*
- Slavery and the Constitution : Both sides of the Question. By Francis E. Brewster. Philadelphia, 1850. 8vo.—*From the Author.*
- Twenty-ninth Report of the Council of the Leeds Philosophical and Literary Society, at the close of the Session, 1848-9. Leeds. 8vo.—*From the Society.*

Mr. Trego announced the death of M. Roux de Rochelle, of Paris, a member of this Society, who died at Paris in June last.

Mr. Fraley gave a description to the Society of the progress that had been made in the erection of buildings for the Smithsonian Institution, at Washington, which he has recently had an opportunity of inspecting.

Pending nominations, Nos. 232 to 237, inclusive, were read.

On motion of the Librarian, Mr. Vanderkemp was permitted to take from the Library, for a few days, a manuscript work entitled "*Journal Historique concernant l'établissement des Français à la Louisiane, &c. Par M. Bénard de la Hurpe.*"

On motion of Mr. Fraley, as complete a copy of the Trans-

actions and Proceedings of this Society as can be furnished, was directed to be sent to the Smithsonian Institution, at Washington.

Stated Meeting, March 15.

Present, twelve members.

Dr. PATTERSON, President, in the Chair.

The following donations were announced:—

FOR THE LIBRARY.

Boston Journal of Natural History; containing Papers and Communications read before the Boston Society of Natural History. Vol. VI. No. 1. Boston, 1850. 8vo.—*From the Boston Society of Natural History.*

The African Repository and Colonial Journal. Vol. XXVI. No. 3. March, 1850. Washington. 8vo.—*From the American Colonization Society.*

The American Journal of Science and Arts. Second Series. Vol. IX. No. 26. March, 1850. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*

The Medical News and Library. Vol. VIII. No. 87. March, 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*

Report of the Pennsylvania Hospital for the Insane, for the year 1849. By Thomas S. Kirkbride, M.D. Physician to the Institution. Published by order of the Board of Managers. Philadelphia, 1850. 8vo.—*From the Author.*

Remarks on the Condition of the Marine Hospital Fund of the United States; with suggestions for its improvement. By a Surgeon U. S. Navy. Philadelphia, 1841. 8vo.—*From Dr. W. S. W. Ruschenberger.*

An Examination into the Legality of the General Orders which confer assimilated Rank on Officers of the Civil Branch of the U. S. Navy. By a Surgeon. Philadelphia, 1848. 8vo.—*From the same.*

Fac-Simile of a Letter from Benjamin Franklin to Humphry Marshall, a Pennsylvania Farmer, April 22, 1771. Philadelphia, 1850.—*From Thomas Fisher.*

The Destiny of Pittsburgh, and the Duty of her Young Men: an

Address delivered before the Young Men's Mercantile Library and Mechanics' Institute of Pittsburgh. By Solomon W. Roberts, Civil Engineer. February 8, 1850. Pittsburgh. 8vo.—*From the Author.*

Report of the Committee of the Overseers of Harvard College, appointed to visit the Lawrence Scientific School, in 1849. Cambridge, 1850. 8vo.—*From an Anonymous Donor.*

Professor Kendall reported the observations of the occultation of Jupiter and his Satellites, made on the 26th February, 1850, at the High School Observatory.

		<i>Mean Time.</i>		
		<i>h.</i>	<i>m.</i>	<i>s.</i>
Immerson of Jupiter's I limb,	- -	14	19	0.96
„ „ II „	. -	14	20	54.16
Emersion of the 3d Satellite,	- -	15	15	26.68
„ Jupiter's I limb,	- -	15	19	52.14
„ „ II „	- -	15	21	42.14
„ 1st Satellite,	- -	15	22	34.70
„ 4th „	- -	15	34	7.21

Prof. K. referred to the striking difference between the brilliancy of the moon and that of the planet. He was prepared to see a marked difference, but the contrast at the moment of the contact of the planet with the moon's bright limb, was much greater than he had anticipated.

He reported further, that the expedition sent out to South America by the government of the United States, to determine the parallaxes of the planets Mars and Venus, had established their observatory at Santiago, in Chili. The observations were going on under most favourable circumstances. Similar observations were made at Washington, officially connected with those in South America.

Pending nominations, Nos. 232 to 237, and new nomination, 238, were read.

PROCEEDINGS
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V. APRIL—DECEMBER, 1850. No. 45.

Stated Meeting, April 5.

Present, seven members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

A letter was read:—

From A. D. Bache, Superintendent of the U. S. Coast Survey, dated Coast Survey Office, Washington, February, 1850, announcing the transmission of a donation to the Society, by direction of the Treasury Department.

The following donations were announced:—

FOR THE LIBRARY.

Annales des Mines. Quatrième Serie. Tome XV. Livr. 1, 2, 3, 1849; et Tome XVI. Livr. 4, 1849. Paris, 1849. 8vo.—
From the Chief Engineer of l'Ecole des Mines.

Journal Asiatique. Quatrième Serie. Tome XIV. No. 69. Nov., Dec. 1849. Paris. 8vo.—*From the Asiatic Society of Paris.*

Memoires de la Société des Sciences, de l'Agriculture et des Arts, de Lille. Parties 1 & 2. 1847, 1848. Lille. 8vo.—*From the Society.*

Catalogue of the New York State Library, January 1, 1850. Albany. 8vo.—*From the Trustees of the N. Y. State Library.*

The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. No. XXVIII. New Series. April, 1850. Philadelphia. 8vo.—*From the Editor.*

The Medical News and Library. Vol. VIII. No. 88. April, 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*

First Report of the Committee on Public Hygiene of the American Medical Association. Read at the Annual Meeting, held in Bos-

ton, May, 1849 ; with an Appendix, containing Sketches of the Sanitary Condition of the Cities of Concord, Portland, New York, Philadelphia, Boston, Lowell, Baltimore, Charleston, New Orleans, Louisville and Cincinnati. (Extracted from the Transactions of the American Medical Association, Vol. II.) Philadelphia, 1849. 8vo.—*From Dr. Isaac Parrish.*

The Sanitary Condition of Philadelphia. From the Report of the Committee on Public Hygiene of the American Medical Association. Read at the Annual Meeting in Boston, May, 1849, and ordered to be published. By Isaac Parrish, M.D. Philadelphia, 1849. 8vo.—*From the same.*

Report of the Committee on the Comparative Health, Mortality, Length of Sentences, &c. of White and Coloured Convicts. Read before the Philadelphia Society for Alleviating the Miseries of Public Prisons, November, 1849, and ordered to be published. Philadelphia. 8vo.—*From the same.*

Annual Report of the Board of Directors of the Pennsylvania Institution for the Deaf and Dumb, for 1849. Philadelphia. 8vo.—*From James J. Barclay, Esq.*

Annual Report of the Board of Managers of the Philadelphia Society for the Establishment and Support of Charity Schools, &c. January, 1850. Philadelphia. 8vo.—*From the same.*

Maps of the U. S. Coast Survey: 1. Nantucket Harbour. 2. Huntington Bay. 3. Harbour of Captains' Island, East and West. 4. Harbours of Sheffield Island and Cawkins' Island. 5. Mouth of Chester River.—*From U. S. Treasury Department, Washington.*

Annali di Fisica, dell' Abbate Francesco Cav. Zantedeschi, Professore di Fisica nell' I. R. Università di Padova. Fascicolo III. Padova, 1849, 1850. 8vo.—*From Professor Zantedeschi.*

Journal of the Franklin Institute. Third Series. Vol. XIX. No. 3. March, 1850. Philadelphia. 8vo.—*From the Institute.*

The Plough, the Loom and the Anvil. Vol. II. No. 10. April, 1850. Philadelphia. 8vo.—*From J. S. Skinner, Esq., Editor.*

Prof. Kendall presented a communication for the Transactions, entitled "On the Longitude of Hudson (Ohio) Observatory, by Elias Loomis, Professor of Mathematics and Natural Philosophy in the University of the City of New York;" which, on motion, was referred to a Committee, consisting of Profs. Kendall and Frazer, and Mr. Downes.

Pending nominations were read.

The Reporter laid upon the table No. 44, Vol. V. of the Proceedings of the Society, from October, 1849, to March, 1850.

Mr. Trego read to the Society a paper from the Franklin Manuscripts, under date of 26th March, 1778, enclosing a piece of grayish metal proposed for coinage, as being impossible to be counterfeited.

Prof. Frazer was requested to have the specimen analyzed.

Stated Meeting, April 19.

Present, fifteen members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From the New Jersey Historical Society, dated Newark, 8th April, 1850; and from the Trustees of the New York State Library, dated Albany, 8th April, 1850, acknowledging the receipt of No. 44 of the Proceedings of this Society: and—

Also, from Wm. B. Reed, Esq., accompanying a donation to this Society, from the Lords of the British Treasury, through the Hon. Geo. Bancroft.

The following donations were announced:—

FOR THE LIBRARY.

Astronomical Observations made at the Royal Observatory, Greenwich, in the year 1847, under the direction of George Biddell Airy, Esq., M.A., Astronomer Royal. Published by order of the Board of Admiralty. London, 1849. 4to.—*From the Royal Society of London.*

Fauna Antiqua Sivalensis; being the Fossil Zoology of the Sewalik Hills, in the North of India. By Hugh Falconer, M.D., F.R.S. &c. and Proby T. Cautley, F.G.S. Letter press. Part I. 8vo. and Illustrations, Parts I. to IX. inclusive. Folio. London, 1845, 1849.—*From the Lords of the British Treasury, through the Hon. George Bancroft.*

Monthly Notices of the Royal Astronomical Society. Vol. X. Nos. 1, 2, 3. Nov. 1849, to Jan. 1850. London. 8vo.—*From the Society.*

Quarterly Journal of the Geological Society. No. 21. Feb. 1850. London. 8vo.—*From the Society.*

Annals and Magazine of Natural History, including Zoology, Botany and Geology. Vol. V. Nos. 26, 27. Feb. and March, 1850. London. 8vo.—*From Sir William Jardine, Baronet.*

The African Repository and Colonial Journal. Vol. XXVI. No. 4. April, 1850. Washington. 8vo.—*From the American Colonization Society.*

Hints on the Reorganization of the Navy, including an Examination of the Claims of its Civil Officers to an Equality of Rights. By W. S. W. Ruschenberger, M.D. New York, 1845. 8vo.—*From the Author.*

Examination of "A Reply to Hints on the Reorganization of the Navy." By W. S. W. Ruschenberger, M.D. New York, 1845. 8vo.—*From the same.*

Diary of a Physician in California; being the results of actual experience; including Notes of the Journey by Land and Water, and Observations on the Climate, Soil, Resources of the Country, &c. By James L. Tyson, M.D. New York, 1850. 8vo.—*From the Author.*

Notice of some Experiments in Heating and Ventilating Hospitals and other Buildings by Steam and Hot Water; with Remarks. By Thomas S. Kirkbride, M.D., Physician to the Pennsylvania Hospital for the Insane. Philadelphia, 1850. 8vo.—*From the Author.*

The Committee (Profs. Kendall and Frazer and Mr. Downes), to which was referred Prof. Loomis' paper "On the Longitude of Hudson (Ohio) Observatory" (see Proceedings of 5th April), reported recommending its publication in the Transactions of the Society, which was ordered accordingly.

The longitude of the observatory, as determined by 449 observations, is 5h. 25m. 41.3s.

There being not a quorum present for the election of candidates for membership, the stated business of the meeting was not transacted.

Pending nominations were read.

Stated Meeting, May 3.

Present, fourteen members.

JUDGE KANE, Vice-President, in the Chair.

Letters were read:—

From the Royal Institute of Science, Belles-Lettres, and Arts of the Netherlands, dated Amsterdam, 1849, acknowledging the receipt of the Transactions, Vol. X. Part 1, and Nos. 38, 39, 40 and 41, of the Proceedings of this Society:—

From the Zoological Society of London, dated Hanover Square, 22d December, 1849, acknowledging the receipt of the Proceedings of this Society, July, 1846, to Vol. V. No. 42:—

From the Corporation of the University in Cambridge, Mass., dated Harvard College, Cambridge, 9th April, 1850, acknowledging the receipt of No. 44 of the Proceedings of this Society: and—

From P. A. Browne, Esq., dated Philadelphia, 26th April, 1850, in relation to his microscopic examination of hair from the heads of ancient Peruvians, and a comparison of these specimens with the hair of our present Indians, from which he infers that they all belong to the same species.

The following donations were announced:—

FOR THE LIBRARY.

Transactions of the Zoological Society of London. Vol. III. Parts 5, 6. London, 1848-9. 4to.—*From the Society.*

Proceedings of the Zoological Society of London. Part XV. Nos. 178, 179, and Part XVI. Nos. 180 to 189, inclusive. London: 8vo.—*From the same.*

Memoirs of the Historical Society of Pennsylvania. Vol. IV. Part 2. Philadelphia, 1850. 8vo.—*From the Society.*

Journal of the Franklin Institute. Third Series. Vol. XIX. No. 4. April, 1850. Philadelphia. 8vo.—*From the Institute.*

Flora Batava, of Afbeelding en Beschrijving van Nederlandsche Gewassen: door Jan Kcps en J. E. Van der Trappen, &c. 160 Aflevering. Amsterdam. 4to.—*From H. M. the King of the Netherlands.*

Message from the Governor of Pennsylvania, transmitting the Reports of the Joint Commissioners, and of Col. Graham, U. S. Engineers, in relation to the Boundary Lines between the States of Pennsylvania, Delaware and Maryland. Harrisburg, 1850. 8vo.—*From B. Matthias, Esq., State Senator.*

A corrected copy of the same.—*From Col. Graham, U. S. Engineer.*

Cryptocephalarum Boreali-Americæ diagnoses cum speciebus novis Musei Leontiani. Auctore S. S. Haldeman. (From Journal of the Academy of Natural Sciences of Philadelphia. Vol. I. 1849.) 4to.—*From the Author.*

Descriptions of North American Coleoptera, chiefly in the Cabinet of J. L. Le Conte, M.D., with references to Described Species. By S. S. Haldeman. 4to.—*From the same.*

A Description of several New and Interesting Animals. (Communicated for the American Journal of Agriculture and Science.) By S. S. Haldeman, Prof. of Zoology in the Franklin Institute, Philadelphia. Albany, 1847. 8vo.—*From the same.*

On some Points in Linguistic Ethnology; with Illustrations, chiefly from the Aboriginal Languages of North America. By S. S. Haldeman, A. M.—*From the same.*

A Classification of Mankind by the Hair and Wool of their Heads; with an Answer to Dr. Prichard's Assertion that "the Covering of the Head of the Negro is Hair, properly so termed, and not Wool." (Read before the American Ethnological Society, Nov. 3, 1849.) By P. A. Browne, L.L.D. Philadelphia, 1850. 8vo.—*From the Author.*

A Lexicon of Terms used in Natural History; prepared for Schools, Colleges and Private Families. By W. S. W. Ruschenberger, Surgeon U. S. N., &c. Philadelphia, 1850. 8vo.—*From the Author.*

State Trials of the United States during the Administrations of Washington and Adams; with References, Historical and Professional, and Preliminary Notes on the Politics of the Times. By Francis Wharton, Author of a Treatise on American Criminal Law, &c. Philadelphia, 1849. 8vo.—*From the Author.*

The Plough, the Loom and the Anvil. Vol. II. No. 11. May, 1850. Philadelphia. 8vo.—*From the Editor, J. S. Skinner, Esq.*

The Medical News and Library. Vol. VIII. No. 89. May, 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*

Professor Frazer reported the analysis of the metal referred to him at a former meeting (5th April), as made by his assistant, Mr. Mueklé, with the following result:

Copper,	-	-	-	81.
Silver,	-	-	-	15.87
Iron,	-	-	-	.39
Antimony,	-	-	-	.94
Arsenic, a trace.				

				98.20

Pending nominations were read.

Stated Meeting, May 17.

Present, eleven members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

The following donations were announced :—

FOR THE LIBRARY.

Memorie della Reale Accademia della Scienza di Torino. Serie Seconda. Tomes V. VI. VII. VIII. IX. X. 1843, 1849. Torino. 4to.—*From the Royal Academy of Sciences at Turin.*

Annual Report of the President of the Maryland Historical Society, and of its Committee on the Gallery of the Fine Arts. Baltimore, 1850. 8vo.—*From the Maryland Historical Society.*

Transactions of the American Medical Association. Instituted 1847. Philadelphia, 1849. 8vo.—*From the Association.*

The African Repository and Colonial Journal. Vol. XXVI. No. 5. May, 1850. Washington. 8vo.—*From the American Colonization Society.*

Journal of the Franklin Institute. Third Series. Vol. XIX. No. 5. May, 1850. Philadelphia. 8vo.—*From the Institute.*

Report of the Select Committee of the Legislature of 1849, on the Publication of the Natural History of the State of New York. Made to the Legislature, January 2, 1850. Albany. 8vo.—*From the Regents of the University of the State of New York.*

Third Annual Report of the Regents of the University of the State of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto. Made to the Senate, January 11, 1850. Albany. 8vo.—*From the same.*

Annali di Fisica dell' Abbate Francesco Cav. Zantedeschi, Professore di Fisica, &c. Fascicolo IV. Padova, 1849–50. 8vo.—*From Prof. Zantedeschi.*

American Journal of Science and Arts. Second Series. No. 27. May, 1850. New Haven. 8vo.—*From the Editors, Profs. Silliman and Dana.*

Report to the Smithsonian Institution on the History of the Discovery of Neptune. By Benjamin Apthorp Gould, Jr. Washington, 1850. 8vo.—*From the Author.*

Collection of the Laws of Patent Privileges of all the Countries of Europe, the United States of North America, and the Dutch West Indies. Published by Charles F. Loosey, Civil Engineer, &c. in Vienna. 1849. 8vo.—*From the Publisher.*

Washington's Farewell Address to the People of the United States of America. New York, 1850. 4to.—*From James Lenox, Esq. of New York.*

Professor Tucker read a paper on the probable effects of the gold mines of California, deduced from the depreciation of the precious metals caused by the discovery of America.

Of the history of their depreciation our knowledge is not indeed either precise or quite authentic, but enough is known to lead us to conclusions that approach the truth.

Professor T. stated, that in 1492, when America was discovered, the quantity of gold and silver in Europe has been commonly estimated at about 300 millions of dollars. According to Baron Humboldt, whose authority is most to be relied on, the accession from the American mines was, in one century (the 16th), 605 millions; in the 17th century the whole amount was 2342 millions; and in little more than another century (to 1803) it reached 5337 millions. If we add to this the amount imported from Africa, the amounts drawn from the mines of Europe and Siberia, and from the American mines since 1803, the total will be 8063 millions. Deducting from this amount what has been sent to India and China, what has been lost, consumed by wear or in manufactures, and there would remain 4663 millions for the whole amount in Europe and America, of which about one-third in value and one forty-sixth in quantity was supposed to be gold.

In 1775, Adam Smith attempted to ascertain the depreciation of the precious metals from a comparison of the average prices of wheat in England at different periods, and he inferred that there was no very sensible depreciation before 1570; but from this period to about 1640, that gold had depreciated to a third, and silver to a fourth of its former value; and that there either had been no subsequent depreciation to his time, or that *silver* had somewhat risen in value.

If these views of Dr. Smith be correct, we ought not to expect any depreciation of both the metals until the quantity now in Europe shall have received an accession of 54 per cent. which, amounting to 2528 millions, would require a net annual addition of 50 millions for 50 years, or of 100 millions for 25 years. And as the amount now in Europe and America is about fifteen times its amount before the discovery of America, we should not experience the same depreciation as was produced by that discovery, until the quantity now in existence had, in like manner, received a fifteen fold increase, that is, had reached the incredible sum of 70,000 millions.

It indeed appears highly probable, from various facts, that Smith has underrated the depreciation in the first 70 years before 1560, and overated it in the 70 years succeeding. Yet, after making ample allowance for these errors, the result will not be materially different.

There seems then to be no ground to apprehend a depreciation of both metals, and a consequent general and permanent rise of money prices. But not so with gold. The extraordinary additions lately made to that metal by the Russian mines, and yet more by those of California, and which are still greatly on the increase, must necessarily depreciate that metal. The quantity drawn from all those mines during the present year will, judging from the amount already received, be not less than 60 millions, which is nearly five times as much as was produced by the American mines at the period of their greatest productiveness. It is nearly 4 per cent. on the supposed amount of gold in Europe and America; while the annual increase of gold from the American mines, during the period of depreciation, never exceeded 3 per cent. Great as is the amount now yielded, it may in a year or two be more than doubled.

The probable effects of this enormous increase are—

1. An alteration between the price of gold and silver. From 16 for 1, as is now the proportion, gold may fall to what it was in many countries before the discovery of America, to 10 for 1, or yet lower, before the natural checks of a decreased production and increased consumption restore the equilibrium.

2. In those countries in which gold continues to be a legal tender, the depreciation will injure creditors and benefit debtors in contracts of a long duration. And this result can be prevented only by making silver a legal tender. Experience has shown that gold will not cease to circulate at its market value when it is no longer a legal tender.

3. Those countries in which there is a gold currency must lose in proportion to the amount of such currency and the extent of the depreciation.

4. By the attraction of its gold mines the settlement of California will be rapid beyond all example.

5. Its commerce with China, where labour is as cheap as it is dear in California, and the precious metals are as dear as they are cheap in California, will have the greatest possible encouragement.

6. Gold, in consequence of its mines being chiefly wrought by American citizens, will be cheaper in the United States than in other countries, and it may therefore be made to take the place of small bank notes.

7. The banks, by means of the large deposits of gold received by them, will be enabled to increase their loans and accommodations, which is but too likely to lead to a distention of the currency, and a wild spirit of speculation. If this evil is avoided,

8. The gradual enlargement of the circulation will have its usual effect of giving a spring to useful enterprise and productive industry.

Prof. Frazer announced, as an interesting geological and mineralogical fact, the discovery of gold in the vicinity of Bloomington, Indiana. He read a letter from the Rev. Prof. T. A. Wylie, giving an account of the gold-washings, and of the region in which the gold occurs. The specimens exhibited by Prof. Frazer were gold in association with particles of magnetic oxide of iron, titanite and garnet.

The Clerk read the proceedings of the Board of Officers and Council at their meeting on the 10th inst.

Pending nominations were read.

Stated Meeting, June 21.

Present, thirteen members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From the Royal Society of London, dated Somerset House, 20th March, 1850, acknowledging the receipt of Nos. 42 and 43, of the Proceedings of this Society:—

From the Royal Society of Göttingen, dated Göttingen, 4th March, 1850, acknowledging the receipt of Vol. IX. Part 3, and Vol. X. Part 1, of the Transactions, and of Nos. 35 to 42, inclusive, of the Proceedings of this Society:—

From the Royal Academy of Sciences at Berlin, dated Berlin, 11th August, 1849, acknowledging the receipt of Vol. X. Part 1, of the Transactions, and Nos. 38 to 42, of the Proceedings of this Society:—

From the same, dated Berlin, 15th September, 1850, announcing the transmission of a donation to this Society from the Academy:—

From the Cambridge Philosophical Society, dated Cambridge, February, 1850, announcing that the Society has sent as a donation, Vol. VIII. of their Transactions: and—

From the Connecticut Historical Society, dated Hartford, 1st June, 1850, acknowledging the receipt of the several numbers of the Proceedings of this Society, published from January, 1849, to March, 1850.

The following donations were announced:—

FOR THE LIBRARY.

Philosophical Transactions of the Royal Society of London, for the year 1849. Part II. London, 1849. 4to.—*From the Royal Society.*

List of the Council and Fellows of the Royal Society, Nov. 30, 1849. London. 4to.—*From the same.*

Address of the Right Honourable the Earl of Rosse, &c. &c. the President; read at the Anniversary Meeting of the Royal Society, on Friday, Nov. 30, 1849. London, 1850. 8vo.—*From the same.*

- Magnetical and Meteorological Observations made at the Royal Observatory, Greenwich, in the year 1847, under the direction of George Biddell Airy, Esq. Astronomer Royal. London, 1849. 4to.—*From the same.*
- Appendix to Greenwich Observations; being a Catalogue of 2156 Stars, formed from the Observations made during twelve years, from 1836 to 1847, at the Royal Observatory, Greenwich. London, 1849. 4to.—*From the same.*
- Transactions of the Cambridge Philosophical Society. Vol. VIII. in 5 Parts. Cambridge, 1844 to 1849. 4to.—*From the Society.*
- Journal of the Royal Geographical Society of London. Vol. XIX. Part 2. London, 1849. 8vo.—*From the Society.*
- Memoirs of the Royal Astronomical Society. Vol. XVIII. 1848-9. London. 4to.—*From the Society.*
- Monthly Notices of the Royal Astronomical Society. Vol. IX. 1848-9. 8vo.—*From the same.*
- Reports of the Proceedings of the Geological and Polytechnic Society of the West Riding of Yorkshire, 1848. Leeds, 1849. 8vo.—*From the Society.*
- Twenty-eighth Report of the Council of the Leeds Philosophical and Literary Society, at the close of the Session, 1847-8. Leeds. 8vo.—*From the Society.*
- Nachrichten von der George Augusts Universität, und der Königlich Gesellschaft der Wissenschaften zu Göttingen, vom Jahr 1849. Nos. 1 to 14, inclusive. Göttingen. 8vo.—*From the Royal Society of Science, Gottingen.*
- Abhandlungen der Königl. Akademie der Wissenschaften zu Berlin, aus dem Jahre 1847. Berlin, 1849. 4to.—*From the Royal Academy of Sciences, Berlin.*
- Verzeichniss der Abhandlungen der Königl. Acad. der Wissenschaften zu Berlin, aus den Jahren 1822 bis 1846. Berlin, 1848. 8vo.—*From the same.*
- Monatsbericht der Königl. Preuss. Akademie der Wissenschaften zu Berlin. July to Dec. 1848, and Jan. to June, 1849. Berlin. 8vo.—*From the same.*
- The Artizan. Vol. VIII. No. 4. April 1, 1850. London. 4to.—*From the Editor.*
- Review of the Report of the late Commissioners for Investigating the Affairs of the Joint Companies, and of the Operations of the Managers of those Companies. By a Citizen of Burlington. Philadelphia, 1850. 8vo.—*From Henry C. Carey, Esq.*

Report to the Corporation of Brown University, on Changes in the System of Collegiate Education. Read March 28, 1850. Providence. 8vo.—*From an Unknown Donor.*

Report to the Smithsonian Institution on the History of the Discovery of Neptune. By Benj. Apthorp Gould, Jr. Washington, 1850. 8vo.—*From the Smithsonian Institution.*

The Annals and Magazine of Natural History, including Zoology, Botany and Geology. Vol. V. Nos. 28, 29. April and May, 1850. London. 8vo.—*From Sir William Jardine, Baronet.*

Catalogue of the Skulls of Man and the Inferior Animals, in the Collection of Samuel George Morton, M.D., &c. &c. 3d Edition. Philadelphia, 1849. 8vo.—*From Dr. S. G. Morton.*

Contributions to Conchology. No. 7. By Prof. C. B. Adams. New York, 1850. 8vo.—*From the Author.*

The African Repository and Colonial Journal. Vol. XXVI. No. 6. June, 1850. Washington. 8vo.—*From the American Colonization Society.*

Journal of the Franklin Institute. Vol. XIX. No. 6. June, 1850. Philadelphia. 8vo.—*From the Institute.*

The Plough, the Loom and the Anvil. Vol. II. No. 12. June, 1850. Philadelphia. 8vo.—*From J. S. Skinner, Esq., Editor.*

The Medical News and Library. Vol. VIII. No. 90. June, 1850. Philadelphia, 8vo.—*From Messrs. Lea & Blanchard.*

Mr. B. W. Richards announced the death of Wm. Vaughan, of London, a member of this Society, who died at London, on the 5th May, 1850, in the 98th year of his age.

Mr. Trego announced the death of M. Ducrotay de Blainville, of Paris, a member of this Society, who died in May last, in the 73d year of his age.

Dr. Franklin Bache announced the death of Dr. Samuel Betton, of Germantown, a member of this Society, who died on the 9th inst. in the 65th year of his age.

On motion of Dr. Bache, Mr. Petty Vaughan, of London, was requested to prepare a biographical notice of the late Mr. Wm. Vaughan.

Mr. Lea exhibited to the Society some specimens of *Unios* taken by him in the little Miami River, near Cincinnati, Ohio. They are remarkable for their very great size. The largest of them, a specimen of *U. Multiplicatus*, weighs 2 lbs. 9½ oz.

Pending nominations were read.

Stated Meeting, July 19.

Present, ten members.

Dr. PATTERSON, President, in the Chair.

A letter was received and read:—

From the Geographical Society of Paris, dated Paris, 10th March, 1850, announcing the transmission of a donation to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Monthly Notices of the Royal Astronomical Society. Vol. X. No. 6.

April 12, 1850. London. 8vo.—*From the Society.*

Smithsonian Contributions to Knowledge. Appendix 2 to Vol. II.

Containing an Ephemeris of the Planet Neptune, for the year 1850. By Sears C. Walker, Esq. Washington. 4to.—*From the Smithsonian Institution.*

Transactions of the Royal Irish Academy. Vol. XXII. Part 2.

Dublin, 1850. 4to.—*From the Academy.*

Sixty-third Annual Report of the Regents of the University of the

State of New York: made to the Legislature, March 1, 1850.

Albany. 8vo.—*From the Regents of the University of the State of New York.*

The African Repository and Colonial Journal. Vol. XXVI. No. 7.

July, 1850. Washington. 8vo.—*From the American Colonization Society.*

Journal of the Franklin Institute. Third Series. Vol. XX. No. 1.

July, 1850. Philadelphia. 8vo.—*From the Institute.*

The American Journal of Science and Arts. Conducted by Professors

Silliman and Dana. Second Series. No. 28. July, 1850. New Haven. 8vo.—*From the Editors.*

Bulletin de la Société de Géographie. Troisième Serie. Tome XII.

Paris, 1849. 8vo.—*From the Geographical Society of Paris.*

Crystallized Gold from California. By Francis Alger, Boston. New

Haven, 1850. 8vo.—*From the Author.*

Contributions to Conchology. No. 6. By Prof. C. B. Adams, of Am-

herst College, Mass. Amherst, 1850. 8vo.—*From the Author.*

Report of Professor John Locke, of Cincinnati, Ohio, of the Inven-

- tion and Construction of his Electro-Chronograph for the National Observatory, in pursuance of an Act of Congress, approved March 3, 1849. Cincinnati, 1850. 8vo.—*From the Author.*
- Reply to a Pamphlet on the subject of "Assimilated Rank," referred to in a Memorial submitted to the Secretary by sundry Line Officers of the Navy, dated March, 1850. 8vo.—*From Dr. Ruschenberger, U. S. N.*
- The American Journal of the Medical Sciences. New Series. No. 39. July, 1850. Philadelphia. 8vo.—*From the Editor, Dr. Isaac Hays.*
- The Medical News and Library. Vol. VIII. No. 91. July, 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*
- The Plough, the Loom and the Anvil. Vol. III. No. 1. July, 1850. Philadelphia. 8vo.—*From J. S. Skinner, Esq., Editor.*
- Plan of the Exhibition of the Industry of all Nations, to be held in London, 1851; with the Central Committee for the United States. Washington, 1850. 8vo.—*From J. C. G. Kennedy, Esq.*

Mr. Trego announced the death of R. Eglesfield Griffith, M.D. of Philadelphia, a member of this Society, who died 27th June, in the 53d year of his age.

Mr. Trego also announced the death of Dr. Philip Tidyman, of Charleston, S. C., a member of this Society, who died at Aberdeen, Scotland, on 11th June, aged 73.

Mr. Trego also announced the death of Mr. John Green Crosse, M.D. of Norwich, England, a member of this Society, who died 9th June last.

On motion of Prof. Frazer, Dr. Hays was requested to prepare an obituary notice of Dr. Griffith.

On motion of Mr. Trego, Mr. Ord was requested to prepare an obituary notice of Dr. Tidyman.

Their being no sufficient quorum present, the stated business of the meeting, the election of new members, was not proceeded with.

Pending nominations were read.

Stated Meeting, August 16.

Present, five members.

Mr. G. M. JUSTICE was called to the Chair.

The following donations were announced :—

FOR THE LIBRARY.

Monthly Notices of the Royal Astronomical Society. Vol. X. No. 7.
May 10, 1850. London. 8vo.—*From the Society.*

Astronomical Observations made at the Radcliffe Observatory, Oxford, in the year 1848. Vol. IX. Also, Vol. VI. for 1845, (which had not been previously received). London. 8vo.—*From the Radcliffe Trustees.*

Proceedings of the New Jersey Historical Society. Vol. V. No. 1.
Newark, N. J., May, 1850. 8vo.—*From the New Jersey Historical Society.*

Journal of the Franklin Institute. Third Series. Vol. XX. No. 2.
August, 1850. Philadelphia. 8vo.—*From the Institute.*

The African Repository and Colonial Journal. Vol. XXVI. No. 8.
Aug. 1850. Washington. 8vo.—*From the American Colonization Society.*

The Progress of the Development of the Law of Storms, and of the Variable Winds, with the Practical Application of the Subject to Navigation. By Lieut. Col. William Reid, C.B., F.R.S. of the Corps of Royal Engineers. London, 1849. 8vo.—*From the Author.*

The Encyclopedia of Chemistry, Theoretical and Practical. By Prof. James C. Booth, assisted by Campbell Morfit. Nos. 14 to 20, inclusive. Philadelphia. 8vo.—*From Prof. J. C. Booth.*

The Medical News and Library. Vol. VIII. No. 92. Aug. 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*

The Plough, the Loom and the Anvil. Vol. III. No. 2. Aug. 1850. Philadelphia. 8vo.—*From the Editor, J. S. Skinner, Esq.*

The minutes of the Board of Officers and Council at their last meeting were read.

The pending nominations were read.

On motion of Mr. Trego, it was agreed to permit the portrait of Rittenhouse belonging to the Society to be loaned to Dr.

Patterson, for the purpose of having a copy taken for the cabinet of the U. S. Mint, of which institution Dr. Rittenhouse was for some years the director. The said loan to be subject to such conditions as may be thought proper by the Curators of the Society.

Stated Meeting, September 20.

Present, eleven members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From the Geological Society of London, dated Somerset House, 6th June, 1850; and from the Royal Geographical Society of London, dated Waterloo Place, 20th July, 1850, respectively acknowledging the receipt of No. 44, of the Proceedings of this Society:—

From B. A. Gould, Jr., dated Cambridge, 7th September, 1850, announcing the presentation, through him, of a donation from Prof. Schumacher, of Altona, to this Society: and—

From F. Le Play, Inspector of the Ecole des Mines, dated Paris, August, 1850, in relation to certain numbers of the Proceedings of this Society, which have not been received at the Ecole des Mines; also announcing a donation to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Journal of the Royal Geographical Society of London. Vol. XX. Part 1. London, 1850. 8vo.—*From the Society.*

Journal of the Royal Asiatic Society of Great Britain and Ireland. Vol. XX. Part 2. London, 1850. 8vo.—*From the Society.*

List of the Members, Officers, &c. of the Royal Institution of Great Britain, with the Report of the Visitors, for the year 1849. London, 1850. 8vo.—*From the Institution.*

Quarterly Journal of the Geological Society of London. Nos. 22 and 23. London, 1850. 8vo.—*From the Society.*

Report of the Nineteenth Meeting of the British Association for the

- Advancement of Science; held at Birmingham, in September, 1849. London, 1850. 8vo.—*From the British Association.*
- Annales des Mines. Quatrième Série. Tome XVI. 5 and 6 livraisons de 1849. Paris. 8vo.—*From the Ecole des Mines.*
- Mémoire sur la Constitution Mineralogique et Chimique des Roches des Vosges. Recherches sur l'Euphotide. Recherches sur le Porphyre Quartzifère. Sur le Porphyre Amygdaloïde d'Oberstein. Sur le Pouvoir Magnetique des Roches. Par M. A. Delesse, Ingenieur des Mines, &c. 5 Pamphlets. 8vo. Paris.—*From the Author.*
- Denkmäler aus Ägypten und Äthiopien, nach den Zeichnungen der von Seiner Majestät dem Könige von Preussen, Friedrich Wilhelm IV. nach diesen ländern gesendeten, und in den jahren 1842, 1845, ausgeführten wissenschaftlichen Expedition auf befehl seiner Majestät. Herausgegeben und erläutert von R. Lepsius. Berlin, 1849. 4to.—*From Prof. Lepsius.*
- Ergänzungs-Heft zu den Astronomischen Nachrichten. Vom Herausgeber. Altona, 1849. 4to.—*From Prof. Schumacher, the Editor.*
- Annals and Magazine of Natural History, including Zoology, Botany and Geology. Vol. V. No. 30. June, 1850. London. 8vo.—*From Sir W. Jardine, Baronet.*
- Archæologia Americana. Transactions and Collections of the American Antiquarian Society. Vol. III. Part 1. Cambridge, Mass. 1850. 8vo.—*From the Society.*
- The Origin and Growth of Civil Liberty in Maryland. A Discourse delivered by George William Brown, before the Maryland Historical Society, Baltimore, April 12, 1850, being the Fifth Annual Address to that Association. Baltimore, 1850. 8vo.—*From the Maryland Historical Society.*
- The American Journal of Science and Arts. Second Series. No. 29. Sept. 1850. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*
- Journal of the Franklin Institute. Third Series. Vol. XX. No. 3. Sept. 1850. Philadelphia. 8vo.—*From the Institute.*
- The African Repository. Vol. XXVI. No. 9. Sept. 1850. Washington. 8vo.—*From the American Colonization Society.*
- The Medical News and Library. Vol. VIII. No. 93. Sept. 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*
- The Plough, the Loom and the Anvil. Vol. III. No. 3. Sept. 1850. Philadelphia. 8vo.—*From J. S. Skinner, Esq., Editor.*

First Biennial Report on the Geology of Alabama. By M. Tuomey, State Geologist, &c. Tuscaloosa, 1850. 8vo.—*From the Author.*

The Mormons. A Discourse delivered before the Historical Society of Pennsylvania, March 26, 1850. By Thomas L. Kane. Philadelphia. 8vo.—*From the Author.*

A Reply to "Hints" on the Reorganization of the Navy. February, 1845. 8vo.—*From Dr. Ruschenberger, U. S. N.*

A Brief History of an Existing Controversy on the Subject of Assimilated Rank in the Navy of the U. S. By W. S. W. R. Philadelphia, 1850.—*From the same.*

Exhibit of the Affairs of the Ohio and Pennsylvania Rail-road Company. Pittsburgh, July 1, 1850. 8vo.—*From S. W. Roberts, Esq., Chief Engineer.*

Mr. Trego announced the death of Dr. Gerard Troost, a member of this Society, who died at Nashville, Tennessee, on the 14th August, 1850.

Dr. F. Bache announced the deaths—of Dr. Joseph Harts-horne, of Philadelphia, a member of this Society, who died on the 20th August, in the 71st year of his age—of Geo. Emlen, of Philadelphia, a member of this Society, who died on the 27th August, in the 66th year of his age—and of Louis Philippe, ex-king of the French, a member of this Society, who died at Clermont, England, 26th August, 1850, aged 76.

Judge Kane read a letter from his son, Dr. E. K. Kane, U. S. N., Senior Surgeon of the American Arctic Expedition, now engaged in searching for Sir John Franklin and his company. It is dated 20th June, 1850, in sight of the island of Disko, coast of Greenland. The letter contains an interesting review of facts and arguments on the possibility of rescuing the missing explorers.

Sir John Franklin's party, consisting of 138 persons, left the Thames on the 26th of May, 1845, in two exploring vessels, attended by a transport. Their general instructions were to proceed by Baffin's Bay, through Lancaster Sound, without stopping to examine any openings to the northward or southward, but pushing on to the westward, in latitude about $74\frac{1}{2}^{\circ}$, till they should reach the longitude of Cape Walker, in west longitude about 98° , and thence taking a direct course for Behring's straits. Should this be found impracticable,

the views of Sir John Franklin, as communicated to his friends, Sir Edward Parry and Col. Sabine, were to pass into Wellington channel, a strait extending northward, in longitude $93\frac{1}{2}^{\circ}$, and which was described by Capt. Parry, in 1819, as a "broad opening, free from ice, and as open and navigable as any part of the Atlantic." The two vessels of the expedition were last seen on the 26th of July, 1845, in latitude $74^{\circ} 48'$, longitude $66^{\circ} 13'$, moored to an iceberg, awaiting an opening through the pack ice into Lancaster sound; the transport having left them shortly before that time, "well, and sanguine" of success.

Dr. Kane's first inquiry is, could the party have subsisted up to the present time?

The transport, he says, left them furnished with the estimated allowance of provisions, stores, and fuel, for three years. This means, according to the published report of the Navy Victualling Board, that the party was abundantly supplied for four years, and could subsist for a much longer time; Arctic expeditions being always fitted out on a scale of exuberant liberality. Our own, for instance, says Dr. Kane, which is provisioned by estimate for only two years and a half, can carry on its operations for five without suffering from want.

Nor, he adds, must we undervalue the resources of a region rich in animal life, it is true of a migratory and therefore capricious character, but not the less to be depended on during a term of years. Sir John Ross, an absentee of four winters, owed his support, in a very great degree, to the hordes of migrating salmon. Rae, in his late expedition, was almost entirely sustained by the chase. Franklin himself lived for nearly a whole winter on resources equally precarious. And Goodsir, in his little work on the upper Baffin's bay region, describes the *auk* (*alca alle*) as coming from the north in such stupendous quantities, as to "supply, in a few hours, the nutriment of years." In fact, Wrangell and Richardson, and hosts of others, have pointed to these very latitudes, or those still further north, as the sources of annual migration.

Dr. K. refers to the facility with which the Esquimaux construct their snow-huts, and the abundance of oils they obtain for fuel from marine mammalia and fishes, and to the known experience, prudence, and aptitude of resource of Sir John Franklin, as negating the probability that the party can have sunk under the rigour of the climate.

He next discusses the question, whether they can have been destroyed by accident. He speaks of the manner in which navigation

among the ice is conducted by vessels that are in company ; carefully avoiding, as far as practicable, a joint exposure to the same perils; aiding each other in difficulties, and rescuing each others' crews in case of wreck ; and he argues the double improbability of both ships having encountered the same calamity at the same moment. But even supposing this, he shows that the chances are great of their crews escaping upon the ice, and reclaiming their stores from the wreck afterwards : the Arctic ocean is rarely tempestuous ; and when it has been so, the loss of life has been small, in consequence of this resort. In the great storm of 1830, which destroyed more than thirty ships and maimed twelve others, their crews, numbering nearly a thousand souls, escaped temporarily upon the ice, and reached succour at last with the loss of only six lives.

That Sir John Franklin has not been heard of since 1845, is scarcely to be wondered at. The Arctic sea was unusually open in the summer of that year, and has been closed since, until the present season, by ice of unusual extent and density. It is a remarkable fact, that of all the expeditions which have attempted the rescue of his party, not a single one has succeeded in reaching either Cape Walker, the first point indicated in his instructions, or Wellington channel, which he intended to explore. Of the three expeditions fitted out in 1848, and since heard from ; one, the *Herald* and *Plover*, entered by Behring's straits, penetrated to 178° west, and returned : another, under Sir John Richardson, reached the Arctic sea by the Mackenzie river, but failed to get further : and the third, under Sir James Ross, the *Enterprize* and *Endeavour*, was beset by peculiar misfortunes, and returned without attaining the first point of inquiry. Yet Cape Walker and Wellington channel were both of them passed four several times by Captain Parry, in earlier years, and they are almost on the verge of the daily route of the Lancaster sound whalers.

When last seen, the party was not more than some 430 miles from Cape Walker, and it had about six weeks of the summer before it. If it was not destroyed before reaching that point, there are memorials there of its progress and purposes, perhaps of its fate ; for it is the practice of all Arctic explorers, and one that was specially enjoined on Capt. Franklin's party, to mark their way by cairns and signal poles, burying full memoranda at their bases ; and these would be imperishable in that region, and little liable to be disturbed.

The expeditions now afloat, are two noble vessels, on the Behring's straits side, with a permanent depôt of provisions established for their use at Kotzebue inlet ; two steamers with their tenders, to follow the

various inlets of Lancaster sound; Capt. Penny, of the whaling service, engaged by the British government, in the far northern passages of Baffin's bay; a private expedition, under the command of Sir John Ross; and another to co-operate with him, which has been organized under the immediate auspices of Lady Franklin. To these is now added the American expedition, consisting of two brigantines, the *Advance* and *Rescue*, fitted out by the munificence of a New York merchant, Henry Grinnell, Esq., and officered and manned by volunteers from the Navy of the United States.

Dr. Kane's letter closes with inquiring into the probabilities of the Franklin party being found by either of these expeditions. "Though the field of exploration," he says, "seems vast at first view, reaching from Cape Barrow, on the west, in longitude 155° , to Cape Clarence, on the east, in west longitude 90° , and extending from those points indefinitely north; yet the avenues by which it is to be approached are few and narrowly limited. All the indications of the last four seasons have been against the onward progress of the party to a considerable distance, as they explain the impracticability of its return after reaching any of the points to which it was destined. The colossal masses of floating ice, which we have already met with, and their immense number, show that the barriers to Arctic exploration have once more given way. Where Franklin entered, others can now follow for the first time; and I am myself convinced, that for some one or other of these, there is yet in reserve the happiness of effecting his rescue."

Mr. Justice stated some observations recently made by him on the existence and progress southward of the "*Wheat-worm*," which is supposed to have come originally from Canada.

He mentioned the appearance of the worm in the white wheat, at his farm on the river Delaware, in Bucks county, Pennsylvania. From observations made by him, he is induced to believe that grain growing on heavy clay soils is most obnoxious to the attack of the worm, as the grain does not harden as rapidly as in looser and warmer soils. The worm appears to be engendered within the chaff or outside covering of the grain, and its ravages are more decided, while the grain continues in a milky state. The head of wheat may present all the appearances of being full and heavy until near the time of ripening, when, instead of a change of colour, from green to yellow, indicating perfection, it remains of a dirty green, and inspec-

tion develops a withered and light grain. As many as three worms were on one grain which he examined. The colour of the insect is a bright yellow, the intestinal canal distinctly visible through the transparent covering as a dark line. This has led some observers to the conclusion, that it was marked with a brown stripe, but this is not the case, the peristaltic motion of the canal being seen under the microscope. The variety of wheat known as "Mediterranean," growing in the same field, was free from the worm, which he attributed to its hardening sooner than the white wheat.

Judge Kane corroborated the statement of Mr. Justice, that the variety of wheat termed "Mediterranean," appears to be wholly or in a great measure exempt from the attacks of this insect.

The pending nominations were read.

Stated Meeting, October 4.

Present, twelve members.

Dr. PATTERSON, President, in the Chair.

The following donations were announced:—

FOR THE LIBRARY.

Memoir on the Explosiveness of Nitre, with a view to elucidate its agency in the tremendous explosion of July, 1845, in New York.

By Robert Hare, M.D. (Smithsonian Contributions.) Washington, 1849. 4to.—*From the Author.*

The Plough, the Loom and the Anvil. Vol. III. No. 4. Oct. 1850. Philadelphia. 8vo.—*From the Editor, J. S. Skinner, Esq.*

The proceedings of the Trustees of the University at Nashville, Tennessee, on the announcement of the death of Dr. Troost, Professor of Chemistry, Geology and Mineralogy, in the University, were read.

Dr. Dunglison announced the death of Mr. Judah Dobson, of Philadelphia, a member of this Society, who died on 26th September last.

The pending nominations were read.

Stated Meeting, October 18.

Present, fifteen members.

Dr. PATTERSON, President, in the Chair.

A letter was read:—

From Edward Gaskill, dated Philadelphia, 10th October, 1850, proposing to sell to the Society a copy of the Natural History of the State of New York.

The following donations were announced:—

FOR THE LIBRARY.

Recherches sur les Organes de la Circulation, de la Digestion, et de la Respiration des Animaux Infusoires. Par M. F. Pouchet, Prof. de Zoologie au Museum d'Histoire Naturelle de Rouen, &c. &c. (Comptes Rendus, Nov. 13, 1848, et Jan. 15, 1849.) Paris. 4to.—*From the Author.*

The American Journal of the Medical Sciences. No. 40. New Series. Oct. 1850. Philadelphia. 8vo.—*From Dr. Isaac Hays, Editor.*

The Medical News and Library. Vol. VIII. No. 94. Oct. 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*

The African Repository. Vol. XXVI. No. 10. Oct. 1850. Washington. 8vo.—*From the American Colonization Society.*

FOR THE CABINET.

A Polygraph, or Writing Machine, formerly belonging to, and used by Thomas Jefferson.—*From N. P. Trist, Esq.*

There being no sufficient quorum present, the stated business of the evening, the election of new members, was not proceeded with.

A brief account was given by Mr. Cresson of the accidental falling of a part of a large Telescopic Gasholder at the City Gas Works.

The accident occurred to the outer section which had just been completed, and was at the moment being lowered into its place in the tank; it was suspended by six purchases of heavy pulley blocks and falls, secured to the top of the section by twelve hooks of round iron,

1½ inches in diameter, from the want of proper arrangement on the part of the riggers for securing the regular and equal lowering at all points of suspension, an excess of weight was thrown upon the hooks on one side, by which one of them was broken, and almost at the same instant all the hooks gave way, either breaking or bending open, and the machine was allowed to fall about fifteen feet. The weight of the falling mass was about 90,000 lbs., but part of this, about 28,000 lbs., was counterbalanced by twelve weights attached to it by chains passing over pulleys. The gravitating force being about 62,000 lbs. acting upon a mass of 118,000 lbs. The damage to the machine was inconsiderable, and no person received any injury, although nearly a hundred men were at work around and within it. The gasholder, of which this is part, is believed to be the largest in the world; its diameter is 140 feet, height 70 feet, and capacity over a million cubic feet.

The weight of iron used in its construction is 330,000 lbs., chiefly sheet and bar. The guide frame contains over a million pounds of cast iron; it is composed of 144 columns arranged in twelve stands or groups placed all around the tank; each group consists of four tiers of columns and entablatures, the lower tier fashioned after the Tuscan order, the second Doric, the third Ionic, and the upper Corinthian. The cost of the entire structure, including the excavation and walling of the tank, is about \$85,000, which is about \$40,000 less than the cost of an equal quantity of gas store room in gasholders of the usual capacity, say 200,000 cubic feet.

The pending nominations were read.

Stated Meeting, November 1.

Present, thirteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Royal Society of Edinburgh, dated Edinburgh, 20th December, 1848, acknowledging the receipt of Vol. IX. Part 3, of the Transactions, and No. 34, of the Proceedings of this Society, and announcing a donation to the Society:—

From the same, dated Edinburgh Royal Society's Apart-

ments, 1st July, 1848, announcing the donation to this Society of a medal bearing the effigy of Napier, of Merchiston, the inventor of Logarithms: and—

From the Etat Major of the Corps of Mining Engineers of Russia, dated St. Petersburg, 8th October, 1849, accompanying a donation to this Society.

The following donations were announced:—

FOR THE LIBRARY.

Philosophical Transactions of the Royal Society of London, for the year 1850. Part 1. London. 4to.—*From the Royal Society.*

Proceedings of the Royal Society of London. Nos. 73, 74, 75. London, 1850. 8vo.—*From the same.*

On the Means Adopted in the British Colonial Magnetic Observatories for Determining the Absolute Values, Secular Change, and Annual Variation of the Terrestrial Magnetic Force. By Lieut. Col. Sabine, R.A. For. Sec., F.R.S., &c. &c. London, 1850. 4to.—*From the Author.*

On the Automatic Registration of Magnetometers and Meteorological Instruments by Photography. No. 3. By Charles Brooke, M.B. F.R.S. London, 1850. 4to.—*From the Author.*

Papers on Meteorology, relating especially to the Climate of Britain, and to the Variations of the Barometer; Communicated to the Royal Society at various periods, from 1821 to 1845. By Luke Howard, Esq., F.R.S. London, 1850. 4to.—*From the Author.*

Essay on the Modifications of Clouds. By Luke Howard, F.R.S., &c. London, 1832. 8vo.—*From the same.*

Transactions of the Royal Society of Edinburgh. Vol. XVI. Part 4, for the Session 1847–8. Edinburgh. 4to.—*From the Society.*

Proceedings of the Royal Society of Edinburgh. Vol. II. Nos. 31, 32. Edinburgh, 1847–8. 8vo.—*From the same.*

Observations in Magnetism and Meteorology, made at Makerstoun in Scotland, in the Observatory of Sir Thomas Makdougall Brisbane, Baronet, &c. &c., in 1844; forming Vol. XVIII. of the Transactions of the Royal Society of Edinburgh. Edited by John Allan Broun, Esq., Director of the Observatory. Edinburgh, 1848. 4to.—*From the same.*

Astronomical Observations made at the Royal Observatory, Edinburgh, by the late Thomas Henderson, F.R.S.L. and E., &c. &c.

Reduced and Edited by his successor, Charles Piazza Smyth, F.R.S.E., &c. &c. Vol. IX. for 1843. Edinburgh, 1850. 4to.—
From the Observatory.

Annuaire Magnétique et Météorologique du Corps des Ingénieurs des Mines; ou Recueil d'Observations Météorologiques et Magnétiques faites dans l'étendue de l'Empire de Russie, &c. Par A. T. Kupfer, Directeur de l'Observatoire Physique Central. Année 1846. Nos. 1 & 2. St. Petersburg, 1849. 4to.—*From the Etat Major of the Corps of Mining Engineers of Russia.*

Notice des Monuments Exposés dans la Salle des Antiquités Américaines (Mexique et Percu) au Musée du Louvre. Par Adrien de Longperier, Conservateur des Antiques. Paris, 1850. 8vo.—
From the Author.

Annali di Fisica dell' Abbate Francesco Cav. Zantedeschi, Prof. di Fisica nella I. R. Università di Padova, &c. Fascicolo V. Padova, 1849-50. 8vo.—*From Prof. Zantedeschi.*

Flora Batava, of Afbeelding en Beschrijving van Nederlandsche Gewassen; door Jan Kops en J. E. van der Trappen. Aflevering 161, 162, 163. Amsterdam. 4to.—*From H. M. the King of the Netherlands.*

Brasilien-Nachträge, Berichtigungen und Zusätze zu den Beschreibung meiner Reise in östlichen Brasilien. Von Max, Prinz zu Wied. Francfort am Main, 1850. 8vo.—*From the Author.*

Monthly Notices of the Royal Astronomical Society. Vol. X. No. 8. June 14, 1850. London. 8vo.—*From the Society.*

Transactions of the American Medical Association. Instituted 1847. Vol. III. Philadelphia, 1850. 8vo.—*From the Association.*

Journal of the Franklin Institute. Third Series. Vol. XX. No. 4. Oct. 1850. Philadelphia. 8vo.—*From the Institute.*

The Plough, the Loom and the Anvil. Vol. III. No. 5. Nov. 1850. Philadelphia. 8vo.—*From J. S. Skinner, Esq., Editor.*

Characteristics of the Age. An Address delivered before the Linnean Association of Pennsylvania College, at the Annual Commencement, Sept. 18, 1850. By the Hon. William D. Kelley, of Philadelphia. Gettysburg, 1850. 8vo.—*From Prof. M. L. Stoeber.*

FOR THE CABINET.

A Medal recently struck, bearing the effigy of Napier, of Merchiston, the Inventor of Logarithms, taken from an authentic contemporary picture.—*From the Royal Society of Edinburgh.*

The pending nominations were read.

Stated Meeting, November 15.

Present, twenty-one members.

Dr. PATTERSON, President, in the Chair.

A letter was read:—

From the Literary and Philosophical Society of Manchester, dated Society's Rooms, George street, 16th October, 1850, acknowledging the receipt of No. 44, of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

The African Repository. Vol. XXVI. No. 11. Nov. 1850. Washington. 8vo.—*From the American Colonization Society.*

The Medical News and Library. Vol. VIII. No. 95. Nov. 1850. Philadelphia. 8vo.—*From Lea & Blanchard.*

Prof. Cresson made some remarks upon the experiments of Prof. Thompson, of which an account is given in a recent number of the London and Edinburgh Philosophical Magazine, and which Prof. T. believes to show that the temperature of congelation of water and other bodies that expand at the moment of solidification, is raised proportionally to the increase of pressure to which they are subjected, the ratio of temperature to pressure being for water 1-10th of a degree of Faht. scale for 10 additional atmospheric pressures.

Mr. C. presented to the notice of the Society a speculation into which he had been led on the subject, showing the effect that such a law might produce in causing water to retain the state of a solid at a very high temperature. For example, if a continuous channel, admitting atmospheric communication, should exist in the crust of the earth to the depth of seventy miles, the pressure of the atmospheric column would exceed fifteen million pounds on the square inch, and according to Prof. T. water should remain solid at a temperature above 10,000° Faht., a heat far above that of molten iron.

The pending nominations were read.

The Clerk read the proceedings of the Board of Officers and Council at a special meeting held this evening.

Mr. Peale laid upon the table for the inspection of members of the Society, the Certificate of Membership of his father, which bears date July, 1786, and is signed by B. Franklin, as President.

Stated Meeting, December 6.

Present, eighteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Royal Danish Society of Sciences of Copenhagen, dated 14th November, 1849, returning thanks for the Transactions, Vol. IX. Part 3d, and Vol. X. Part 1, and for Nos. 38 to 42, of the Proceedings of this Society:—

From the same, of same date, announcing a donation: and—

From John M. Bernhisel, agent of the inhabitants of the Territory of Utah, accompanying a printed circular, soliciting donations of books for a library for the inhabitants of said Territory.

The following donations were announced:—

FOR THE LIBRARY.

Det Kongelige Danske Videnskabernes Selskabs Skrifter. Femte Række. Naturvidenskabelig og Matematisk Afdeling. Første Bind. Kiöbenhavn, 1849. 4to.—*From the Royal Danish Society of Sciences, Copenhagen.*

Oversigt over det Kgl. Danske Videnskabernes Selskabs Forhandlingar, og dets Medlemmers Arbeider, i Aaret 1847, 1848. Kiöbenhavn, 1848-9. 8vo.—*From the same.*

Proceedings of the New Jersey Historical Society. Vol. V. No. 2. 1850. 8vo.—*From the Society.*

Journal of the Academy of Natural Sciences of Philadelphia. New Series. Vol. II. Part 1. Philadelphia, Nov. 1850. 4to.—*From the Academy.*

Proceedings of the Academy of Natural Sciences of Philadelphia, from Sept. 3 to Oct. 27, 1850. 8vo.—*From the same.*

Journal of the Franklin Institute. Third Series. Vol. XX. No. 5. Nov. 1850. Philadelphia. 8vo.—*From the Institute.*

Della Mnemotecnica, ovvero del modo di meravigliosamente facilitar la Memoria mediante l'associazione delle idee. Dissertazione del Prof. Taddeo dei Consoni, Mnemonico, Stenografo, Criptografo, &c. &c. Firenze, 1848. 8vo.—*From the Author.*

Contributions to the Natural History of the Acalephæ of North America. By L. Agassiz. May, 1849. 4to.—*From the Author.*

Smithsonian Contributions to Knowledge. The Classification of Insects from Embryological data. By Prof. Louis Agassiz. Aug. 1849. 4to.—*From the same.*

The American Journal of Science and Arts. Second Series. No. 30. Nov. 1850. With an Index to the first ten volumes. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*

Code of Rules and Regulations for the government of those employed in the care of the Patients of the Pennsylvania Hospital for the Insane, near Philadelphia. Second Edition. Philadelphia, 1850. 8vo.—*From the Author, Dr. Thomas S. Kirkbride.*

Observations on the Fishes of Nova Scotia and Labrador, with Descriptions of New Species. By Horatio Robinson Storer. (From the Boston Journal of Natural History, Oct. 1850). 8vo.—*From Charles Girard.*

The Plough, the Loom and the Anvil. Vol. III. No. 6. Dec. 1850. Philadelphia. 8vo.—*From the Editor, J. S. Skinner, Esq.*

The Medical News and Library. Vol. VIII. No. 96. Dec. 1850. Philadelphia. 8vo.—*From Messrs. Lea & Blanchard.*

Mr. Justice submitted for the inspection of such of the members as are interested in numismatics, a specimen of the rare coin known as the Washington Half-dollar.

The history of this coin is not exactly known, but tradition states that a few were struck and submitted to the government as samples, when the project for establishing a mint was first entertained. Orders were immediately issued for the cessation of the issue, and for breaking the dies. The coin bears the effigy of Washington, with the legend, "G. Washington. President I. 1792." On the reverse, an eagle with spread wings, bearing the shield of the United States, with the olive branch and arrows, its head surrounded by the 13 stars, and the legend, "United States of America."

Mr. Richards exhibited a piece of plumbago from the Southampton mine, Bucks county. The specimen was $12\frac{3}{4}$ inches long, by $\frac{3}{4}$ and $\frac{5}{8}$ inch thick, and was sawed from a much larger piece, remarkable for its purity. Mr. R. stated that the plumbago of this mine had been found better for the purposes of making crucibles, &c. than the imported article, on account of its greater purity, but that, unfortunately, it was more expensive owing to the depth of the mine and the difficulty of working it. Mr. R. gave a brief history of the mine.

A discussion in regard to the geology of the district arose, in which Dr. Coates, Mr. Trego, and Prof. Frazer took part.

Mr. Justice made some remarks upon a recent statement as to the beneficial effects of wire gauze in case of near-sightedness, which led to a discussion, in which Dr. Coates, Dr. Hays, and Prof. Cresson took part.

The Treasurer of the Society and the Committee on Publication made their annual Reports, which were referred as usual.

Pending nominations were read.

There being no sufficient quorum present, the alterations of the laws could not be considered.

Stated Meeting, December 20.

Present, twenty-six members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From Baron Von Hammer Purgstall, dated Vienna, 30th April, 1850; and from Benjamin Ferris, dated Wilmington, State of Delaware, respectively announcing donations to the Society.

The following donations were announced:—

FOR THE LIBRARY.

The following works by the Baron Von Hammer Purgstall, of Vienna:—

Abhandlung über die Siegel der Araber, Perser und Türken.

- Bericht über die in letzten vier Jahren, 1845, 6, 7, 8, zu Constantino-
pel gedruckten und lithographirten Werke. In three Parts.
- Bericht über Hrn. Reinauds französische Uebersetzung von Abulfedas
Geographie.
- Ueber die Menschenclasse welchen von den Arabern "Schoubije"
genannt wird.
- Von der Inschriftverbrämung der Kleider als Souverainitätsrecht der
Frauen in Morgenländer.
- Bericht über Herrn Charrières Negociation de la France dans le
Levant.
- Rede des Präsidenten der Kaiserlichen Akademie der Wissenschaften,
Freiherrn Von Hammer Purgstall, bei der feierlichen Eröffnung
derselben am 2 Februar, 1848.—*From the Author.*
- Jahrbücher der Literatur für 1848. Vols. 121, 122, 123, 124. Vi-
enna. 8vo.—*From the Baron Von Hammer Purgstall.*
- A History of the Original Settlements on the Delaware, from its dis-
covery by Hudson to the Colonization under William Penn. To
which is added, an Account of the Ecclesiastical Affairs of the
Swedish Settlers, and a History of Wilmington, from its first
settlement to the present time. By Benjamin Ferris. Wilming-
ton, 1846. 8vo.
- Sundry Pamphlets relating to the Seneca Indians in the State of
New York, entitled, as follows:—
- The Case of the Seneca Indians illustrated by facts. Philadelphia,
1840. 8vo.
- A Further Illustration of the Case of the Seneca Indians, &c. Phila-
delphia, 1841.
- Proceedings of an Indian Council held at Buffalo creek, &c. Balti-
more, 1842.
- Declaration of the Seneca Nation of Indians in General Council, &c.
Baltimore, 1845.
- Report of the Proceedings at an Indian Council at Cataraugus, N. Y.
Baltimore, 1846.
- Proceedings of the Joint Committee appointed by the Society of
Friends, for Promoting the Civilization and Improving the Con-
dition of the Seneca Nation of Indians. Baltimore, 1847.
- Further Proceedings of the Joint Committee for Promoting the Civi-
lization and Improving the Condition of the Seneca Nation of In-
dians, from the year 1847 to 1850. Baltimore, 1850.—*From*
Benjamin Ferris.
- Report on the Expediency of Celebrating in future the Landing of

the Pilgrims on the twenty-first day of December, instead of the twenty-second day of that month. By a Committee of the Pilgrim Society. Boston, 1850. 8vo.—*From N. B. Shurtleff, M.D.*

The African Repository. Vol. XXVI. No. 12. December, 1850.

Washington. 8vo.—*From the American Colonization Society.*

Journal of the Franklin Institute. Third Series. Vol. XX. No. 6.

December, 1850. Philadelphia. 8vo.—*From the Institute.*

Descriptions of some American Annelida Abranchia. By Joseph Leidy, M.D. (Journal Acad. Nat. Sci. Philadelphia), 1850.

4to.—*From the Author.*

Contributions to Helminthology. By Joseph Leidy, M.D. (Proceedings Acad. Nat. Sci. Philadelphia), 1850. 8vo.—*From the same.*

Dr. Franklin Bache announced the death of Sir James Wylie, of St. Petersburg, a member of this Society, on the 9th October last (old style), aged 55.

Mr. Wagner presented the minutes of the Committee on Finance, which embraced their former report.

They recommended the following appropriations for the ensuing year, which were agreed to.

Proceedings,	-	-	-	-	-	\$100
Binding,	-	-	-	-	-	50
Journals,	-	-	-	-	-	100
General account,	-	-	-	-	-	700
Hall,	-	-	-	-	-	50

\$1000

On motion of Dr. Dunglison, the Committee were authorized to invest the trust and other funds in loans of the State, City, or Districts, as they may think proper.

On motion of Judge Kane, the Society proceeded to the consideration of the alterations of the laws proposed at the meeting of 15th November, 1850; when the amendments proposed by the Board of Officers were agreed to.

These amendments were as follows:—

First. Amend Chapter I. Section 1st, so as to read as follows:—

“The election of new members shall be by ballot; and shall form

part of the stated business for the meetings on the first Friday of January, April, July and October, in each year."

Second. Amend Chapter I. Section 4th, so as to read:—

"Nor shall any elections be had at the meetings statedly appointed therefor, unless there be present thereat at least twenty members qualified to vote; and no person shall be deemed duly chosen at such meetings, unless three-fourths of the qualified members present shall have voted in his favour."

Third. Add a new section in Chapter I., to be Section 5th, as follows:—

"But in case the number of twenty qualified voters shall not be present at a meeting statedly appointed for elections, the election of a candidate may, by one or more of the members who nominated him, be publicly adjourned to the stated meeting next succeeding, which adjournment shall thereupon be entered among the minutes; and if, at such adjourned election, three-fourths (being at least 15) of the qualified members present thereat, shall vote in favour of the candidate, he shall be deemed duly chosen."

Fourth. Amend Chapter IX. Section 3d, by striking out "the election of members."

Fifth. In Chapter VIII. Section 5th, after the words, "he shall give notice in the newspapers of the meetings of the Society, and of the officers and council," insert "and of all elections, whether stated or adjourned."

The pending nominations, and new nomination, No. 241, were read.

P R O C E E D I N G S
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V.

JANUARY—JULY, 1851.

No. 46.

Stated Meeting, January 3.

Present, fifteen members.

Dr. PATTERSON, President, in the Chair.

Dr. Joseph Leidy, a newly elected member, was introduced and took his seat.

The judges and clerks of the election held this day, reported the election of the following officers:—

President.

Dr. Robert M. Patterson.

Vice-Presidents.

Dr. Franklin Bache,
Alexander D. Bache,
Hon. John K. Kane.

Secretaries.

Dr. Robley Dunglison,
John F. Frazer,
Charles B. Trego,
E. Otis Kendall.

Members of the Council for Three Years.

Clement C. Biddle,
George M. Justice,
Frederick Fraley,
Henry Reed.

Curators.

Franklin Peale,
John C. Cresson,
M. Fisher Longstreth.

Treasurer.

Benjamin W. Richards.

A letter was read from Lieut. Col. J. D. Graham, dated Washington, 20th September, 1850, stating that his diploma of membership in the American Philosophical Society, had been destroyed by fire, and asking that the same might be renewed under the authority of the Society: whereupon the officers of the Society were authorized to give to Lieut. Col. Graham, an attested copy of his diploma of membership.

The following donations were announced:—

FOR THE LIBRARY.

The Documentary History of the State of New York. Arranged under the direction of the Hon. Christopher Morgan, Secretary of State. By E. B. O'Callaghan, M. D. Vol. I. Albany, 1850. 4to.—*From the Trustees of the New York State Library.*

The American Journal of Science and Arts. Second Series. Vol. XI. No. 31. January, 1851. New Haven. 8vo.—*From the Editors, Professors Silliman and Dana.*

Song of the Sea Shells, and other Poems. By Thomas Fisher. Philadelphia, 1850. 8vo.—*From the Author.*

The Silent Influence of the Bible: a Discourse delivered before the Bible Society of Pennsylvania College and Theological Seminary, Gettysburg, Pa. By Rev. Joseph Few Smith, Professor of Sacred Rhetoric and Pastoral Theology, Auburn, N. Y. Gettysburg, 1851. 8vo.—*From Professor M. L. Stoevers.*

A Collection of Pamphlets (32 in number) on various subjects by different authors.—*From E. D. Ingraham, Esq.*

Mr. M. Fisher Longstreth offered for the Transactions of the Society, a memoir “On the Accuracy of the Tabular Longitudes of the Moon, to be obtained by the construction of New Lunar Tables:” which was on motion referred to a Committee, consisting of Professors Kendall and Frazer and Mr. Downes.

Dr. Leidy offered for the transactions of the Society, a memoir “On the organization of the genus *Gregarina* of Dufour:” which was on motion referred to a Committee, consisting of Dr. S. G. Morton, Mr. Lea, and Dr. Hays.

Mr. J. C. Cresson called the attention of the Society to the fluctuations of the barometer, which had recently occurred. He had observed on the 23d of December, a fall of 0.8 inch in the course of twelve hours. The day was very windy, and

Mr. C. endeavoured roughly to ascertain the velocity of the wind by parachutes, and found it to be about sixty feet per second.

Mr. Justice referred to the case related of a person, partially drowned, in which the circumstances of the person's life passed rapidly and vividly through his memory. Mr. J. had recently met with a similar case, in which the patient, without knowledge of the former incident, described the same effect as having occurred to him.

Mr. Trego, for Mr. Du Bois, made the following statement concerning a remarkably large specimen of gold from California:—

The largest lump of gold in quartz, which, as it is affirmed, has yet been found in California, was brought to the Assay Office of the Mint of the United States, a few days since, to be valued without being destroyed. Mr. Eckfeldt, the principal assayer of the mint, found its weight to be $265\frac{50}{100}$ ounces troy, the fineness of the gold 902 thousandths, the specific gravity of the lump 7.99. Assuming 2.6 as the average specific gravity of ferruginous quartz, and taking the known specific gravity of gold of the above fineness, when alloyed with silver, 17.93, it follows that the lump was composed of 209.48 oz. of pure gold, and 56.02 oz. stone: the consequent mint value was \$3906. The gold is reputed to have been found in dry diggings, not far from Tuolumne river, by two Mexicans, belonging to what is known in California as the "Sonorian Camp." It is now in the possession of Messrs. Ludlow, bullion brokers, in Third street, where it may be seen.

There not being a sufficient quorum for the amendment of the laws of the Society, the subject was necessarily postponed.

Pending nominations were read.

The following resolutions, offered by Mr. Justice, were read, considered and agreed to:—

Resolved, That the sum of three hundred dollars be paid to the Librarian, in addition to the amount provided for in the laws of the Society, for his services during the present year; for which extra compensation, he shall continue to arrange and make complete the catalogue of our library, now in progress; prepare and forward the Proceedings to our correspondents, and generally to transact all

business which custom in addition to our laws has heretofore required, and he may have rendered.

Resolved, That the increased labour required of our Librarian, in consequence of the extensive correspondence of the Society, the receiving and transmitting of parcels, the daily attendance at the rooms required by our members, to answer their demands for books, together with the continually increasing applications for the use of manuscripts and other books by strangers and citizens, as well as other services expected of him, not originally contemplated in his appointment as Librarian, render it needful to make some change in our laws—therefore

Resolved, That the whole subject be committed to the Officers and Council, with directions to report thereon at an early meeting of the Society.

The Reporter laid before the meeting, No. 45 of the Proceedings of the Society.

Stated Meeting, January 17.

Present, twenty-seven members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From the Trustees of the State Library of New York, dated Albany, January 15th, 1851:—

From the New Jersey Historical Society, dated Newark, January 15, 1851: and—

From the Historical Society of Pennsylvania, dated Philadelphia, January 15th, 1851, respectively acknowledging the receipt of No. 45 of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Monthly Notices of the Royal Astronomical Society. Vol. X. No. 1.

November 8, 1850. London 8vo.—*From the Society.*

Proceedings of the American Antiquarian Society, at Boston, May 29, and at Worcester, Oct. 23, 1850. Worcester. 8vo.—*From the Society.*

Fourth Annual Report of the Regents of the Smithsonian Institution to the Senate and House of Representatives, showing the operations, expenditures and condition of the Institution during the year 1849. Washington, 1850. 8vo.—*From the Smithsonian Institution.*

The Boston Journal of Natural History, containing Papers and Communications read before the Boston Society of Natural History, and published by their direction. Vol. VI. No. 2. Boston, 1850. 8vo.—*From the Boston Society of Natural History.*

The African Repository. Vol. XXVII. No. 1. January, 1851. Washington. 8vo.—*From the American Colonization Society.*

Historia de Mejico, desde los primeros movimientos que prepararon su Independencia en el año de 1808, hasta la epoca presente. Por Don Lucas Alaman. Tomo II. Mejico, 1850. 8vo.—*From the Author.*

Letter to the Rev. John Bachman, D.D. on the question of Hybridity in Animals, considered in reference to the Unity of the Human Species. By Samuel George Morton, M. D. Philadelphia and Edinburgh. Charleston, 1850. 8vo.—*From the Author.*

Additional Observations on Hybridity in Animals, and on some collateral subjects; being a Reply to the Objections of the Rev. John Bachman, D.D. By Samuel George Morton, M.D. Charleston, 1850. 8vo.—*From the same.*

Contributions to Conchology, No. 8. By Prof. C. B. Adams, of Amherst College, Mass. New York, 1851. 8vo.—*From the Author.*

The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. New Series. No. 41. January, 1851. Philadelphia. 8vo.—*From the Editor.*

The Medical News and Library. Vol. IX. No. 97. January, 1851. Philadelphia. 8vo.—*From Lea & Blanchard.*

The Plough, the Loom and the Anvil. Vol. III. No. 7. January, 1851. Philadelphia. 8vo.—*From J. S. Skinner, Esq. Editor.*

Journal of the Franklin Institute. Third Series. Vol. XXI. No. 1. January, 1851. Philadelphia. 8vo.—*From the Institute.*

The Committee, to whom was referred the memoir of Mr. M. Fisher Longstreth, presented at the last meeting, reported in favour of its publication in the Transactions of the Society, which was ordered accordingly.

The Committee, to whom was referred the communication of Dr. Leidy, presented at the last meeting, reported in favour

of its publication in the Transactions of the Society, which was ordered accordingly.

Mr. Trego announced the death of Count de Lasteyrie, of Paris, a member of this Society, who died in October, 1849, aged 88 years.

Dr. Leidy read a paper on *Nematoidea imperfecta*, supplemental to the paper presented by him at the last meeting, which was referred to a Committee consisting of Mr. Lea, Dr. Hays, and Dr. Ruschenberger.

On motion, Mr. Charles B. Trego was appointed Librarian for the ensuing year.

The following named gentlemen were appointed on the standing committees of the Society—

Of Finance—Mr. Lea (Chairman), Mr. Wagner, Mr. Fraley.

On the Hall—Judge Kane (Chairman), Mr. F. Peale, Mr. Justice.

On the Library—Dr. Hays (Chairman), Mr. Campbell, Mr. Ord.

Of Publication—Mr. Lea (Chairman), Dr. Hays, Mr. Fisher.

The catalogue of the surviving members of the Society was read; from which it appeared, that the number on the list on the 1st January, 1851, was 349, of whom there are resident in the United States, 243, and in foreign countries, 106.

The Society then proceeded to ballot for candidates for membership.

On motion, Chap I. Section 10, of the Laws of the Society was amended, so as to read as follows:—

“Such members as reside within ten miles of the Hall of the Society, and such others as desire to vote at the meetings and elections, shall pay an admission fee of ten dollars, and annually thereafter a contribution of five dollars, from and after 31st December, 1851.”

The other business of the meeting having been concluded, the ballot boxes were opened, and the following named gentlemen were declared duly elected members of the Society:—

STEPHEN COLWELL, of Philadelphia.

JOHN H. TOWNE, do.

Dr. CHARLES M. WETHERILL, of Philadelphia.
 JOEL B. REYNOLDS, do.
 Dr. THOMAS S. KIRKBRIDE, do.
 GEORGE M. TOTTEN, do.
 DON LUCAS ALAMAN, of Mexico.
 BENJAMIN APTHORP GOULD, of Cambridge, Mass.
 Dr. JOSEPH W. FARNUM, of New York.

Stated Meeting, February 7.

Present, fifteen members.

Dr. PATTERSON, President, in the Chair.

Messrs. J. H. Towne and J. B. Reynolds, recently elected members of the Society, were presented, and took their seats.

Letters were read:—

From John H. Towne, dated Philadelphia, 20th January; from B. A. Gould, Jr., dated Cambridge, 21st January; from J. B. Reynolds, dated Philadelphia, 22d January; from Dr. Charles M. Wetherill, dated Philadelphia, 27th January; from Thomas S. Kirkbride, dated Pennsylvania Hospital for the Insane, 1st February; and from Stephen Colwell, dated Philadelphia, 6th February, 1851, severally acknowledging receipt of notice of their election to membership in this Society:—

From the Corporation of the University of Cambridge, Mass., dated Harvard College, 9th January, 1851; and from the Connecticut Historical Society, dated Hartford, 5th February, 1851, acknowledging the receipt of Proceedings of this Society: and—

From B. A. Gould, Jr., dated Cambridge, 2d February, 1851, announcing the death of Prof. Schumacher, of Altona, a member of this Society, who died at Altona on the 28th December last.

The following donations were announced:—

FOR THE LIBRARY.

Bulletin de la Société de Géographie. Troisième Série. Tome XIII.
 Paris, 1850.—*From the Geographical Society of Paris.*

Journal Asiatique. Quatrième Série. Tome XV. Paris, 1850. 8vo.
From the Asiatic Society of Paris.

Annales des Mines. Quatrième Série. Tome XVII. Livraisons 1, 2, 3, de 1850. Paris. 8vo.—*From the Engineers of the Ecole des Mines.*

Mémoire sur la Constitution Minéralogique et Chimique des Roches des Vosges. Sur le Pouvoir Magnétique des Roches Vitrifiées. Sur le Porphyre de Lessines et de Quenast (Belgique). Sur la Variolite de la Durance. Par M. A. Delesse, Ingénieur des Mines. (4 Pamphlets, 8vo.)—*From the Author.*

The History of the Boston Athenæum, with Biographical Notices of its deceased Founders. By Josiah Quincy. Cambridge, Mass., 1851. 8vo.—*From the Author.*

Report of the Select Committee of the Senate of Pennsylvania, in relation to the Colonial Records of this Commonwealth. Harrisburg, 1851. 8vo.—*From Benjamin Matthias, Esq.*

A Catalogue of the Shells, arranged according to the Lamarckian System, contained in the Collection of John C. Jay, M.D. &c. &c. Fourth Edition. New York, 1850. 4to.—*From John C. Jay, M.D.*

The Medical News and Library. Vol. IX. No. 98. Feb. 1851. Philadelphia. 8vo.—*From Lea & Blanchard.*

The Plough, the Loom, and the Anvil. Vol. III. No. 8. Feb. 1851. Philadelphia. 8vo.—*From the Editor, J. S. Skinner, Esq.*

Morse's Patent. Full Exposure of Dr. Charles T. Jackson's Pretensions to the Invention of the American Electro-Magnetic Telegraph. 8vo.—*From an anonymous Donor.*

The Committee, to whom was referred Dr. Leidy's paper on *Nematoidea imperfecta*, reported, recommending its publication in the Transactions of the Society, which was ordered accordingly.

Prof. Frazer announced the death of John James Audubon, a member of this Society, on the 27th of January, 1851, aged 76 years.

On motion, Prof. Kendall was requested to prepare for the Society a notice of the labours of Mr. Schumacher; and Dr. Ruschenberger was requested to prepare a necrological notice of Mr. Audubon.

On motion, the resolution of 19th April, 1850, ordering the

publication of Prof. Loomis' paper on the Longitude of Hudson (Ohio) Observatory, was rescinded, in consequence of the paper having already been published elsewhere by Prof. Loomis.

Stated Meeting, February 21.

Present, twelve members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From Adolphus M. Hart, dated St. Louis, Missouri, 7th February, 1851, offering for sale a number of specimens of Colonial Paper Money: and—

From John Hill, Jr., M.D., dated Willimantic, Connecticut, 17th February, 1851, requesting to be furnished with a number of the Proceedings of the Society, and with a copy of its Constitution and Laws.

The following donations were announced:—

FOR THE LIBRARY.

The Quarterly Journal of the Geological Society. Vol. VI. No. 24.

November, 1850. London. 8vo.—*From the Society.*

Monthly Notices of the Royal Astronomical Society. Vol. XI. No. 2.

December 13, 1850. London. 8vo.—*From the Society.*

Journal of the Franklin Institute. Third Series. Vol. XXI. No. 2.

Feb. 1851. Philadelphia. 8vo.—*From the Institute.*

An Introductory Lecture, delivered at the Opening of the Thirty-first Session of the Medical College of Ohio, November 4, 1850. By John Bell, M.D., Professor in the Institution. Cincinnati, 1850. 8vo.—*From the Author.*

A Folio Volume of the Works of James Petiver, F.R.S., containing his *Gazophylacium Naturæ et Artis*, and *Museum Petiveriani*; with numerous engravings of Animals, Fossils, and Vegetables. Published in London, in parts or numbers, from the year 1695 to 1713. Bound, and lettered on the back, "The Gift of Sir Hans Sloane, Baronet, to John Bartram, 1744."—*From Col. Robert Carr.*

The Herball, or Generall Historie of Plantes. Gathered by John Gerarde, of London, Master in Chirurgerie. Imprinted at London, by John Norton, 1597. Folio.—*From Benjamin W. Richards, Esq.*

Thirtieth Annual Report of the Board of Direction of the Mercantile Library Association, Clinton Hall, New York, January, 1851. New York. 8vo.—*Donor unknown.*

The minutes of the meeting of Officers and Council, held on the 14th inst., were read.

New nominations, from Nos. 242 to 247, inclusive, were read.

Stated Meeting, March 7.

Present, seven members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From M. le Vicomte de Santarem, dated Paris, 12th October, 1850, announcing a donation to the Society: and—

From the Trustees of the Boston Athenæum, dated Boston, 9th January, 1851, acknowledging the receipt of the Proceedings of this Society, No. 45.

The following donations were announced:—

FOR THE LIBRARY.

Proceedings of the Zoological Society of London. Part XVII. 1849; and from January to April, 1850. Together with the Reports of the Council and Auditors of the Zoological Society, read at the Annual General Meeting, April 29, 1850. London. 8vo.—*From the Zoological Society of London.*

Essai sur l'Histoire de la Cosmographie et de la Cartographie pendant le moyen-age, et sur les Progrès de la Géographie après les Grandes Decouvertes du XVe. siècle, &c. Par le Vicomte de Santarem, des Académies des Sciences de Lisbonne, de Berlin, de l'Institut de France, &c. &c. 2 Vols. 8vo. Paris, 1849. *From the Author.*

- Annual Report of the Trustees of the State Library of the State of New York. Made to the Legislature 10th February, 1851. Albany. 8vo.—*From the Trustees of the N. Y. State Library.*
- The American Journal of Science and Arts. Second Series. No. 32. March, 1851. New Haven. 8vo.—*From Professors Silliman and Dana, Editors.*
- The African Repository. Vol. XXVII. No. 2. February, 1851. Washington. 8vo.—*From the American Colonization Society.*
- The Medical News and Library. Vol. IX. No. 99. March, 1851. Philadelphia. 8vo.—*From Lea & Blanchard.*
- Analyses of the Ashes of certain Commercial Teas. By Prof. E. N. Horsford, of Harvard University. (American Journal of Science and Arts, March, 1851.)—*From the Author.*
- Report of the Pennsylvania Hospital for the Insane, for the Year 1850. By Thomas S. Kirkbride, M.D., Physician to the Institution. Philadelphia, 1851. 8vo.—*From the Author.*

Pending nominations, from Nos. 242 to 247, and new nominations, Nos. 248 and 249, were read.

On motion, it was resolved that Dr. A. D. Bache, President of the American Association for the Advancement of Science, be a committee, on the part of this Society, to take measures for procuring a testimonial on the part of the men of science of America, to the labours and merits of the late Professor Schumacher.

Special Meeting, March 17.

Present, five members.

Dr. PATTERSON, President, in the Chair.

On motion—*Resolved*, that it is expedient for this Society to memorialize the State Legislature, praying for the exemption from taxation of the property of religious, charitable, literary, and scientific associations; whereupon, a memorial to this effect was read, and ordered to be signed by the President and Secretary, and sent to the Speakers of the Senate and House of Representatives.

Stated Meeting, March 21.

Present, fourteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

A letter was read:—

From Dr. A. Dallas Bache, Superintendent of the United States Coast Survey, dated Washington, 27th December, 1850, announcing the transmission of a donation to this Society, by direction of the Treasury Department.

The following donations were announced:—

FOR THE LIBRARY.

Astronomical and Magnetical and Meteorological Observations, made at the Royal Observatory, Greenwich, in the Year 1848, under the Direction of George Biddell Airy, Esq., M.A., Astronomer Royal. Published by Order of the Board of Admiralty. London, 1850. 4to.—*From the Royal Society of London.*

Observations made at the Magnetical and Meteorological Observatory at Hobarton, in Van Diemen Island, and by the Antarctic Naval Expedition. Printed by Order of Her Majesty's Government, under the Superintendence of Lieut. Col. Edward Sabine, R. A. Vol. I. commencing with 1841; with Abstracts of the Observations from 1841 to 1848, inclusive. London, 1850. 4to.—*From the British Government.*

U. S. Coast Survey Maps: 1. Cat and Ship Islands: 2. Hyannis Harbour: 3. Pasquotank River.—*From the U. S. Treasury Department.*

Bibliotheca Firmiana, sive Thesaurus Librorum. 9 Vols. 4to. Mediolani, 1783.—*From Dr. L. Turnbull.*

The Quarterly Journal of the Chemical Society. Vol. III. No. 12. London, Jan. 1, 1851. 8vo.—*From the Society.*

The African Repository. Vol. XXVII. No. 3. March 1851. Washington. 8vo.—*From the American Colonization Society.*

On the Velocity of the Galvanic Current in Telegraph Wires. By B. A. Gould, Jr. (Am. Jour. Sci. and Arts, Jan. 1851.) New Haven. 8vo.—*From the Author.*

The Twenty-third Annual Report of the Board of Managers of the

House of Refuge, with an Appendix. Philadelphia, 1851.—*From James J. Barclay, Esq.*

The Plough, the Loom, and the Anvil. Vol. III. No. 9. March, 1851. Philadelphia. 8vo.—*From J. S. Skinner, Esq., Editor.*

Mr. Lea made the following remarks on a communication from Professor Agassiz to the Natural History Society of Boston:—

In the last number, just published, of the Proceedings of the Boston Society of Natural History, Prof. Agassiz states that he had been engaged in the study of the soft parts of the American fresh water Molluscs, with the object of “discovering some new characters on which to base an accurate classification.” He states that he had “found, that in addition to the two muscular impressions in the shell usually described, there are generally two or more produced by muscular fibres springing from the foot, which impressions, in some species, are confluent, in others more or less distinct.”

The existence of these muscular fibres was communicated by me to this Society in November, 1827, and published in Vol. III. page 263, of the Transactions, new series. The paragraph is as follows: “There cannot be a doubt that the two pairs of muscles which support the feet, and serve by their alternate action to give the animal locomotion, are entirely distinct from the great anterior and posterior muscles, which seem but to serve the purpose of closing the valves opened by the elasticity of the ligament. The cicatrices of the muscles of the foot, anteriorly, are placed *under* the great anterior cicatrix; posteriorly, *over* the great posterior cicatrix, and are sometimes confluent with the great cicatrices, sometimes entirely distinct from them.”

Again, Prof. Agassiz states that “other impressions exist, produced by the gills, the palpi, and the dorsal gland.” These were noticed by me at the same time as “another set (dorsal) of attaching muscles which seemed to have escaped attention.” They are mentioned by me as “making impressions (cicatrices) in the cavity of the valve beneath the beak.” They are stated as “supporting the mantle, branchiæ,” &c. In regard to the observation of Prof. Agassiz, that “these impressions in some species are confluent, in others more or less distinct,” I was, when I first observed this anatomical structure, so much impressed with its importance, that I used it in descriptions of the species made known in that paper, and have, I believe, used it

in every one of the several hundred new species since published by me.

In a subsequent paper, which I read before this Society in March, 1829, and which the Society did me the favour to have published in its Transactions, Vol. III., new series, page 414, is a paragraph on "*Muscular Impressions.*" I mentioned their importance, and stated that they "should always have our attention in examining a specimen." And further, I stated that "it should be understood that the animals of this family always possess two pairs of muscles, used for locomotion, and placed near or in contact with the two adductor muscles, used solely for closing the valves. In the anterior margin these are generally separate; in the posterior, more generally confluent; but in the same species we sometimes find individuals presenting two, sometimes three, and sometimes four cicatrices, besides those of the cavity of the beaks; and this depends, in a great measure, on the thickness of the shell. If the species be ponderous, we often find the posterior muscle of the foot attached to the inside of the lamellar tooth, near to its termination; if it be thin, although of the same species, it will be found generally confluent, or near to the great posterior muscle. The cicatrices made by the superior part of the mantle in ponderous shells, generally will be found on the under part of the cardinal tooth. In thin shells these cicatrices will be found in the cavity of the beaks, generally traversing it in an oblique direction." Again in a paper read May 7, 1830, Vol. IV. page 67, in a note on *Hyria avicularis*, I mention having "discovered that the extensor muscle of the foot is attached to the internal base of the cardinal tooth, and there forms a remarkable cicatrix," &c. In a subsequent paper, when describing *Unio Browianus* (a *Hyria*), I mention that the "cicatrix of the *extensor muscle* is placed over that of the anterior adductor muscle."

As other "new characters," Prof. Agassiz states, that "in some of the Naiades, the *posterior* portion of the gills only is found to be distended with eggs at the breeding season; in others the whole gill is so distended." In a paper read to this Society in July, 1837, and published in Vol. VI. of Transactions, page 48, new series, I mentioned, that "believing the oviducts would present to us the means of discrimination in some of the species, having found them to be so very different in the *Unio irroratus*, my attention had been particularly addressed to these organs, in the few and small species of our vicinity." In this paper I gave figures of four species, displaying the position of the oviducts, two of them, the *Unio ochraceus* and the *Unio*

cariosus, having the posterior portion of them charged with eggs, while the *whole length of the branchiæ* had oviducts charged in the other two, the *Anodonta fluvialis* and *Anodonta undulata*. In the text, I stated that in species having certain distinctions, "the oviducts will be found to be placed in the *posterior portion* of the branchiæ."

In regard to the *Anodontæ*, I stated that they were not, like the *Uniones*, figured, with the posterior portion of the branchiæ charged with eggs, but that they presented "an even mass from the anterior to the posterior part." Mentioning some specimens of *Anodonta Ferrussaciana* being examined, I stated that "the whole lobe of the superior *branchiæ*" were found "charged with ova." The period of gestation was considered by me as very important, and many observations were made, which may be found in my papers, particularly in those of July 15, 1836, and February 19, 1841.

Prof. Agassiz announces that "the *Unio gracilis* and *Unio fragilis*, usually considered separate species," are not distinct. I pointed this out in my synopsis, in June, 1838, in Vol. VI. of Transactions, new series, page 121.

Prof. Agassiz must have overlooked these observations published so long since, but I deem it due to myself to make this reclamation.*

Pending nominations, from Nos. 242 to 248, and new nominations, from Nos. 250 to 255, were read.

The Clerk read the proceedings of a special meeting of the Officers and Council held on the 14th inst.

In accordance with the resolution of the Officers and Council, an amendment of the By-laws was proposed.

* It is only due to Poli and to Pfeiffer, to say that they had both observed and figured the muscles of the foot under the term of the "muscles of the stomach." When I wrote my early papers, where the anatomy and physiology of the Naïades were partially given, I was not acquainted with the excellent works of these able and distinguished zoologists. I believe that no copy of their works had then reached this country. The great work of Poli is perhaps unequalled in its accuracy and magnificence.

Stated Meeting, April 4.

Present, twenty members.

Mr. LEA was called to the Chair.

Letters were read:—

From J. F. and A. F. Svanberg (without date), announcing the death of their late father, Professor Jo'ns Svanberg, a member of this Society, who died at Upsal on the 15th January, in the 80th year of his age:—

From Mr. Townsend Ward, dated Philadelphia, 2d April, 1851, asking permission, on behalf of the Historical Society of Philadelphia, to have a copy painted of the portrait of the Rev. John Heckewelder, which is in possession of this Society: and—

From G. M. Totten, dated Manzanilla Island, 8th February, 1851, acknowledging the receipt of notice of his election as a member of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Journal of the Franklin Institute. Third Series. Vol. XXI. No. 3. March, 1851. Philadelphia. 8vo.—*From the Institute.*

The Pennsylvania Journal of Prison Discipline and Philanthropy. Vol. VI. No. 2. April, 1851. Philadelphia. 8vo.—*From the Philadelphia Prison Society.*

The American Journal of the Medical Sciences. No. XLII. New Series. April, 1851. Philadelphia. 8vo.—*From Dr. Isaac Hays, Editor.*

The Medical News and Library. Vol. IX. No. 100. April, 1851. Philadelphia, 8vo.—*From Blanchard & Lea.*

The Harmony of Interests: Agricultural, Manufacturing and Commercial. By Henry C. Carey. Philadelphia, 1851. 8vo.—*From the Author.*

The Prospect: Agricultural, Manufacturing, Commercial and Financial, at the opening of the Year 1851. By Henry C. Carey. Philadelphia. 8vo.—*From the same.*

Annual Reports of the Trustees of the Astor Library of the City of

New York, made to the Legislature, Jan. 29, 1850, and Feb. 1, 1851. Albany. 8vo.—*From Joseph G. Cogswell, Esq.*

Alphabetical Index to the Astor Library, or Catalogue, with short Titles, of the Books now collected, and of the proposed accessions, as submitted to the Trustees of the Library for their approval, January, 1851. New York. 8vo.—*From the same.*

Report of Professor Alexander Dallas Bache, Superintendent of the U. S. Coast Survey, showing the progress of that work for the year ending Oct. 1850. Washington. 8vo.—*From Charles B. Trego.*

A Romance of the Sea Serpent or the Ichthyosaurus. Also a Collection of the Ancient and Modern Authorities, with Letters from distinguished Merchants and Men of Science. Cambridge, Mass. 1849.—*From Eugene Batchelder.*

Memorial to the Congress of the United States, requesting an Investigation and Legislation in relation to the New Method of Refining Gold, of Prof. R. S. McCulloh, of the College of New Jersey, late Melter and Refiner of the U. S. Mint. Princeton, N. J. 1851. 8vo.—*From an unknown Donor.*

Dr. Franklin Bache announced the decease of the Rev. Samuel F. Jarvis, a member of this Society, who died at Middletown, Conn., on the 26th March, 1851, in the 65th year of his age.

Dr. Franklin Bache having taken the Chair, Mr. Lea made the following communication on the great size of certain *Naiades* from the neighbourhood of Cincinnati:—

On the 21st of June last, I made a communication to the Society regarding the great size and weight to which some of the *Naiades* attained in the waters of the valley of the Ohio. By some means the manuscript was mislaid, and a single species only appeared on the record of the minutes and in the printed Proceedings.

The specimens noticed in that communication were much the largest which had been before observed, and I deem it of sufficient importance now to request their insertion.

In a physiological point of view, it is interesting to know the extent to which the secreting powers of the animal may extend in certain species, under different circumstances, and how large a quantity of carbonate of lime may be deposited by the base membrane, as explained by Dr. Carpenter in his paper on the mode of secretion in different genera or species of the molluscs. Some of the specimens

observed by me have, I have no doubt, a secretion of carbonate of lime in both valves equal to twenty times the weight of the included soft parts of the animal. The secreting and depositing power here is of an exceedingly large extent.

These weights and measurements give us also the facts which determine the power of development of the same species in different localities, more or less favourable to vital energy, as adult specimens are found in some places where their weight would not be one-tenth of some of the specimens among those noted in the table.

In a geological point of view, the facts are of some importance. We find in the loamy deposits of the banks of some of the western streams, large quantities of the existing species of the vicinity. These beds are sometimes found to contain, at the height of eighty feet above high water mark, the same species which exist in streams cutting the neighbouring banks; and they must have lived there ages before, ere the streams had cut their channels nearly so deep as they are at present.* In all such cases, it would be well to note whether any and what differences there may be between the same species recorded in the bluffs, and those still living in the stream below.

The weights and measurements of the following species are taken from specimens in my own cabinet, without the soft part of the animal being included.

No.	Lbs. oz.	Diameter. Inches.	Length. Inches.	Breadth. Inches.
1. <i>Unio multiplicatus</i> ,	2 9 $\frac{1}{2}$	3 $\frac{3}{4}$	5 $\frac{3}{4}$	8
2. <i>Unio crassidens</i> ,	1 14	2 $\frac{9}{10}$	4 $\frac{2}{10}$	5 $\frac{8}{10}$
3. <i>Unio crassus</i> ,	1 11 $\frac{1}{4}$	2 $\frac{9}{10}$	4	5 $\frac{9}{10}$
4. <i>Margaritana complanata</i> ,	1 10	2 $\frac{3}{4}$	6	8
5. <i>Unio pustulosus</i> ,	1 7	2 $\frac{8}{10}$	3 $\frac{8}{10}$	4
6. <i>Unio undulatus</i> ,	1 6 $\frac{1}{2}$	2 $\frac{1}{2}$	3 $\frac{3}{4}$	4 $\frac{5}{8}$
7. <i>Unio alatus</i> ,	1 6 $\frac{1}{2}$	2 $\frac{7}{10}$	5	7 $\frac{1}{4}$
8. <i>Margaritana undulata</i> ,	1 5 $\frac{1}{2}$	2 $\frac{3}{10}$	4 $\frac{1}{10}$	7 $\frac{2}{10}$
9. <i>Unio tuberculatus</i> ,	1 4 $\frac{1}{2}$	2 $\frac{1}{2}$	3 $\frac{8}{10}$	7 $\frac{1}{2}$
10. <i>Unio verrucosus</i> ,	1 2	2 $\frac{2}{10}$	4 $\frac{1}{2}$	5
11. <i>Unio lacrymosus</i> ,	1 1	2 $\frac{3}{10}$	4	5 $\frac{1}{4}$
12. <i>Unio obliquus</i> ,	15 $\frac{1}{2}$	2 $\frac{1}{2}$	3 $\frac{3}{4}$	4 $\frac{5}{8}$
13. <i>Unio rectus</i> ,	13 $\frac{1}{4}$	2	2 $\frac{9}{10}$	6 $\frac{2}{10}$
14. <i>Unio rubiginosus</i> ,	8	1 $\frac{9}{10}$	3 $\frac{3}{10}$	4 $\frac{3}{10}$

* I owe to Mr. Coleman Sellers the possession of several species found by him near New Harmony, where they covered a space of half an acre, at the height of eighty feet.

In the cabinet of Mr. Joseph Clark, of Cincinnati, I found the following species of enormous weights. They were found by him in that vicinity, where mine were also procured.

	Lbs.	oz.
Unio crassus,	2	10
Unio crassidens,	2	2
Unio tuberculatus,	1	8
Unio securis,	1	
Unio rectus,	1	5
Margaritana complanta,	1	14

Pfeiffer's heaviest weight given, of the European species, is 8 oz. apothecaries' weight, in the "*Unio sinuata*" (*margaritifera*), which is equal to 6 oz. avoirdupois, the weight used above.

The Society then proceeded to consider the proposed alteration of the Laws, when, on motion, Chapter VIII. Sect. 7th, of the Laws of the Society, was amended so as to read as follows:—

"He shall receive an annual salary of six hundred dollars, from the treasury of the Society."

Pending nominations, from Nos. 242 to 255, were read.

On motion, permission was granted to the Historical Society of Pennsylvania, to have a copy of the portrait of Mr. Hewes in the possession of this Society, painted under the superintendence of the Librarian.

Stated Meeting, April 18.

Present, thirty-one members.

Dr. PATTERSON, President, in the Chair.

Dr. C. M. Wetherill, recently elected a member of this Society, was presented and took his seat.

Letters were read:—

From Joseph W. Farnum, dated London, March 21, 1851, acknowledging the receipt of notice of his election as a member of this Society:—and

From Dr. J. G. Flügel, U. S. Consul at Leipsic, dated Leipsic, March 18, 1851, announcing the transmission of a donation to the Library of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Proceedings of the Royal Institution of Great Britain, from January 24 to March 3, 1851. 8vo.—*From the Royal Institution.*

Memoirs of the American Academy of Arts and Sciences. New Series. Vol. IV. Part 2. Cambridge and Boston, 1850. 4to.—*From the Academy.*

Proceedings of the American Academy of Arts and Sciences. Vol. II. Pages 161 to 232 inclusive. 8vo.—*From the same.*

Smithsonian Contributions to Knowledge. Vol. II. Art. 3. Microscopical Examination of Soundings made by the U. S. Coast Survey, off the Atlantic Coast of the United States. By Prof. J. W. Bailey, U. S. Military Academy, West Point. 4to.—*From the Smithsonian Institution.*

Proceedings of the New Jersey Historical Society. Vol. V. No. 3. 1851. 8vo.—*From the Society.*

Flora Batava, of Afbeelding en Beschrijving van Nederlandsche Gewassen; door Jan Kops en J. E. Van der Trappen. Aflevering 164. Amsterdam. 4to.—*From his Majesty, the King of the Netherlands.*

Diccionario Hispano-Chileno y Chileno-Hispano, compuesto por el R. P. Misionero, Andres Febres, de la C. de J. Santiago, 1846. 12mo.—*From Lieut. J. M. Gilliss, U. S. Navy.*

Gramatica de la lengua Chilena, escrita por el Reverendo Padre Misionero, Andres Febres de la C. de J. Santiago, 1846. 8vo.—*From the same.*

Indenture of Agreement, July 4, 1760, between Lord Baltimore and Thomas and Richard Penn, Esquires, settling the limits and boundaries of Maryland, Pennsylvania, and the three lower counties of Newcastle, Kent and Sussex, on Delaware. Philadelphia, 1851. Folio.—*From Edward D. Ingraham, Esq.*

Special Anatomy of the Gasteropoda of the United States. By Joseph Leidy, M.D. of Philadelphia. 1850. 8vo.—*From the Author.*

The Plough, the Loom, and the Anvil. Vol. III. No. 10. April, 1851. Philadelphia. 8vo.—*From the Editor.*

Mr. Trego announced the death of Prof. H. C. Oersted, a member of this Society, who died at Copenhagen on the 9th of March, 1851, in the 74th year of his age.

Prof. Frazer briefly spoke of the scientific labours of Prof. Oersted.

Mr. Franklin Peale presented for the inspection of the members, a gold piece of the value of \$50, coined in California, by Mr. Humbert, U. S. Assayer at San Francisco. He also exhibited several of the new three cent pieces, coined at the mint in this city, pursuant to a recent Act of Congress.

Dr. Emerson mentioned to the Society, the passage of a recent Act of the Legislature of Pennsylvania, for the registration of births, marriages and deaths, in the State, distinguishing between those of the white and black inhabitants.

Mr. Justice exhibited a specimen of the new preparation of "flax cotton" by Mr. Clausen.

Mr. Fraley made some observations upon specimens of prepared flax, made some fifteen years ago, at New Hope, Pa., and stated that he had seen about the year 1822, some specimens prepared without water-rotting, at a mill in Manayunk, the property of Mr. Alexander Wilson, for the purpose of manufacturing; and that Commodore Barron had about the same time invented a machine for the same purpose.

The stated business of the evening, the balloting for candidates for membership was then proceeded with; all other business having been finished, the ballot boxes were opened, and the following gentlemen were declared duly elected members of the Society :

Rev. HENRY A. BOARDMAN, of Philadelphia.

Dr. THOMAS D. MUTTER, do.

Dr. CASPAR MORRIS, do.

Dr. WILLIAM PEPPER, do.

ISAAC HAZLEHURST, Esq. do.

PETER M'CALL, Esq. do.

Dr. WILLIAM SHIPPEN, do.

Dr. JOSEPH PANCOAST, do.

JACOB G. MORRIS, do.

ROBERT PATTERSON, do.

Prof. WILLIAM CHAUVENET, U. S. Naval Academy.

DANIEL KIRKWOOD, of Pottsville, Pa.

Prof. FRANCESCO CAV. ZANTEDESCHI, of Padua.

Stated Meeting, May 2.

Present, twenty-three members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Dr. Thomas S. Kirkbride, Dr. Caspar Morris, Dr. William Pepper, Mr. Jacob G. Morris, Mr. Stephen Colwell, and Rev. Dr. Boardman, recently elected members, were presented and took their seats.

Letters were read:—

From Isaac Hazlehurst, dated Philadelphia, April 19; Rev. Henry A. Boardman, dated Philadelphia, April 21; Dr. Joseph Pancoast, dated Philadelphia, April 22; William Chauvenet, dated Annapolis, Md. April 22; Dr. Thomas D. Mutter, dated Philadelphia, April 24; and Robert Patterson, dated Philadelphia, April 26, respectively acknowledging the receipt of notice of their election as members of this Society:—

From the Royal Society of Sciences at Göttingen, dated 9th February, 1851, acknowledging the receipt of Nos. 43 and 44 of the Proceedings of this Society:—and

From the Literary and Philosophical Society of Manchester, dated Society's Rooms, George street, April 8th, 1851, acknowledging the receipt of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Journal Asiatique. IV Série. Tome XVI. Paris, 1850. 8vo.—

From the Asiatic Society of Paris.

Annales des Mines. Tome XVIII. 4 & 5 Livraisons de 1850. Paris.

8vo.—*From the Engineers of l'Ecole des Mines.*

Quarterly Journal of the Geological Society. No. 18. May 1, 1849.

London. 8vo.—(Not previously received).—*From the Society.*

- Abhandlungen der Königlichen Gesellschaft der Wissenschaften zu Göttingen. IV Band. für 1848—50. Göttingen, 1850. 4to.—*From the Royal Society of Sciences at Göttingen.*
- Nachrichten von der Georg-Augusts-Universität, und der Königlichen Gesellschaft der Wissenschaften zu Göttingen. Vom Jahre 1850. Nos. 1—17. Göttingen. 8vo.—*From the same.*
- Annals of the Lyceum of Natural History of New York. Vol. V. No. 2. April, 1851. 8vo.—*From the Lyceum.*
- Proceedings of the Boston Society of Natural History. Vol. III. (From page 337 to end of Volume, with Title-page and Index to Vol. III.) Boston. 8vo.—*From the Society.*
- Memorials of Columbus: Read to the Maryland Historical Society, by Robert Dodge, April 3, 1851. Baltimore. 8vo.—*From the Society.*
- The African Repository. Vol. XXVII. No. 4. April, 1851. Washington. 8vo.—*From the American Colonization Society.*
- Proceedings of the Royal Institution of Great Britain. No. 3. March 7 to 21, 1851. London. 8vo.—*From the Institution.*
- Journal of the Franklin Institute. 3d Series. Vol. XXI. No. 4. April, 1851. Philadelphia. 8vo.—*From the Institute.*
- Uranus: Synchronistisch geordnete Ephemeride aller Himmelserscheinungen des Jahres 1850; 2, 3, and 4 Quartale; und 1 Semester, 1851. Herausgegeben von der Königlichen Sternwarte zu Breslau. Breslau. 8vo.—*From Professor Boguslawski.*
- Populäres Astronomisches Hand-Wörterbuch, oder versuch einer alphabetisch geordneten Erklärung der vornehmsten Begriffe und Kunstwörter der Astronomie, &c. Von Dr. Joseph Emil Nürnberger. Parts 14 to 19, inclusive, completing the work. 8vo. *From Dr. J. G. Flügel, U. S. Consul at Leipsic.*
- Congratulatory Address to Dr. Nürnberger on his Fiftieth Anniversary. Transcribed by Dr. J. G. Flügel, for the Society. MSS. *From the same.*
- A Proposal to establish and maintain One Uniform System of Weights, Measures and Coins, among all Civilized and Commercial Nations. By Peter A. Browne, LL.D., of Philadelphia. New York, 1851. 8vo.—*From the Author.*
- Ephémérides des Mouvements Célestes pour le Méridien de Paris. Tome Septième; contenant les dix années de 1775 à 1784. Revues et publiées par M. de la Lande, de l'Académie Royale de Paris. Paris, 1774. 4to.—*From J. F. Frazer.*

Ephemerides Anno Virginei Partus, 1500. (No imprint.) 4to.
From the same.

A Catalogue of the Subscription Library at Kingston upon Hull, established in December, 1775. Liverpool, 1822. 8vo.—*From the same.*

By-laws of the Pennsylvania State Lunatic Hospital at Harrisburg, with the Acts of the Legislature establishing the same. Harrisburg, 1851. 8vo.—*From Charles B. Trego.*

The Medical News and Library. Vol. IX. No. 101. May, 1851. Philadelphia. 8vo.—*From Blanchard & Lea.*

United States Exploring Expedition, during the Years 1838, 1839, 1840, 1841, 1842, under the Command of Charles Wilkes, U. S. N. Vol. XI. Meteorology, by Charles Wilkes, U. S. N. Philadelphia, 1851. 4to.—*From the Author.*

The American Journal of Science and Arts. Second Series. No. 33. May, 1851. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*

Mr. Du Bois exhibited a number of specimens of metallic currency, for the inspection of the members.

1. Silver coin of the caliph, *Haroun Alraschid*, renowned in Arabian history and romance. This well preserved and rare specimen was lately presented to the Mint collection, by John P. Brown, Esq., drogoman to the United States Embassy at Constantinople. It bears no effigy of the caliph, or picture of any kind, owing to a rigid construction, by the Mussulmans, of the second Mosaic commandment, by which they abstain from "making the likeness of any thing," for any purpose. Instead of such emblems, the coin is covered on both sides with Arabic inscriptions, chiefly texts from the Koran; with a fanciful, dashing script, peculiar to the Mohammedan coins of that day. On one side we read in the centre—"There is no God but one God, to whom there is no Fellow." And around this—"In the name of God, this dirhem was coined in the City of Peace (Bagdad), in the year 188," that is, 803 of the Christian era.

On the reverse, the central inscription reads—"Mohammed is the messenger of God." Around this is the legend, "Mohammed is the messenger of God, whom he sent as the director of the true religion, that he might elevate it above all religions, however much the *Associators* should be displeased by it." The term *Associators* was applied by Mahomed to the Christians, in respect to the doctrine of the

Trinity, and probably, also, to the divine honours paid to the Virgin Mary in the Greek Catholic church, to which he was neighbour.

The occasion of this peculiar feature of Arabian coinage (*Cufic* coinage as it is called by numismatists) is detailed by Arabian writers, and is here gathered from Marsden, in his *Numismata Orientalia*.

Until the year of the Hegira, 76, or A. D. 695, the Mahomedan empire had no coinage of its own, relying upon what was already current in the country, especially of the Greek-Roman issue, from Constantinople. But the caliph Abdalmalek having adhered to the practice of commencing his epistles to the Roman Emperor with the formulary—"There is but one God, and Mohammed is his prophet"—the latter took offence at what appeared to him an insult, or at least a disparagement of the faith he professed, and threatened to retaliate, by introducing inscriptions upon the coinage which would not be agreeable to the professors of Islamism. The effect of this unwise controversy was such as might have been expected. The caliph took measures for establishing an orthodox mint of his own, and commenced a coinage in A. D. 695.

It should be added, that the denomination of this coin, dirhem, is a change of the ancient Greek word drachm. The average value of the Arabic dirhem was about twelve cents. The silver appears to be of a high grade of fineness.

The coin is as yet scarcely known in this country, and is very rare even in Europe, especially in such fine preservation: yet it is remarkable that two such pieces have been dug up of late years in different places in England, where they were probably carried by returning crusaders.

2. Specimens of private mintage in California, ten and five dollar pieces. They so closely resemble the national coin, as to be properly considered counterfeits; with this remarkable feature, however, that they are nearly or quite equal to the genuine issue in value. As the idea of *counterfeiting* seems almost necessarily to include that of *debasement*, or fraud, this unique characteristic renders the pieces highly interesting. The difference in the market price of gold bullion at San Francisco and at Philadelphia, is the easy solution of the circumstance.

3. Three varieties of gold rings, made in the interior of Africa from the gold of that country. The largest of them only is a novelty; and that on account of its massiveness, being worth about 110 dollars. The smallest has a value of only 60 cents. They are understood to serve the double purpose of ornament and currency; but

the large one must have been a crown jewel, rather than a veritable pendant for the ear or nose.

On motion, the use of the Hall was tendered to the Association of Medical Superintendents of Hospitals and Asylums for the Insane, for the purpose of holding their proposed meetings.

Stated Meeting, May 16.

Present, fifteen members.

JUDGE KANE, Vice-President, in the Chair.

Mr. Robert Patterson, recently elected a member, was presented, and took his seat.

Letters were read:—

From Dr. William Shippen, dated Philadelphia, 15th May, 1851, acknowledging the receipt of notice of his election as a member of this Society, and declining the acceptance thereof: and—

From the Cambridge Philosophical Society, dated Cambridge, 1st January, 1851, announcing the transmission of their Transactions, Vol. IX. Part 1, as a donation to this Society.

The following donations were announced:—

FOR THE LIBRARY.

Philosophical Transactions of the Royal Society of London, for the Year 1850. Part 2. London, 1850. 4to.—*From the Royal Society.*

List of the Council and Fellows of the Royal Society, Nov. 30, 1850. 4to.—*From the same.*

Astronomical, and Magnetical and Meteorological Observations, made at the Royal Observatory, Greenwich, in the Year 1849, under the direction of George Biddell Airy, Esq., M.A., Astronomer Royal. London, 1850. 4to.—*From the same.*

Results of Observations made by the Rev. Fearon Fallowes, at the Royal Observatory, Cape of Good Hope, in the Years 1829,

- 1830, 1831. Reduced under the Superintendence of G. B. Airy, Esq., Astronomer Royal. London, 1849. 4to.—*From the same.*
- Observations on Days of Unusual Magnetic Disturbance, made at the British Colonial Magnetic Observatories, under the Departments of Ordnance and Admiralty. Printed by the British Government, under the Superintendence of Lieut. Col. Edward Sabine, of the Royal Artillery. Vol. I. Part 2. 1842, 1843, 1844. London, 1851. 4to.—*From the British Government, through Col. Sabine.*
- Monthly Notices of the Royal Astronomical Society. Vol. XI. No. 4. Feb. 15, 1851. London. 8vo.—*From the Society.*
- Transactions of the Cambridge Philosophical Society. Vol. IX. Part 1. Cambridge, 1851. 4to.—*From the Society.*
- Observations des Phénomènes Périodiques. 1849. Bruxelles. 4to. *From M. A. Quetelet.*
- Rapport adressé à M. le Ministre de l'Interieur, sur l'état et les travaux de l'Observatoire Royal pendant l'année, 1849. Par M. le Directeur Quetelet.—*From the same.*
- Fourth Annual Report of the Regents of the University of New York, on the Condition of the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto. Made to the Senate, January 14, 1851. Albany. 8vo.—*From the Regents of the University of New York.*
- An Address delivered before the Rhode Island Historical Society, on the evening of February 19, 1851. By Elisha R. Potter, Member of the Society. Providence, 1851. 8vo.—*From the Author.*
- Papers on Practical Engineering: Published by the Engineer Department, for the use of the Officers of the U. S. Corps of Engineers. No. 5. An Analytical Investigation of the Resistance of Piles to Superincumbent Pressure, deduced from the force of Driving; with an application of the formula to the foundations of Fort Montgomery, Rouse's Point, N. Y. By Brevet Lieut. Col. James L. Mason, Capt. U. S. Engineers. Washington, 1850. 8vo. *From Gen. J. G. Totten, U. S. Engineers.*

Dr. Franklin Bache announced the decease of Dr. Samuel George Morton, a member of this Society, who died in this city on the 15th inst., in the 52d year of his age, and accompanied the announcement by a brief notice of the scientific labours of the deceased.

On motion, Dr. Horner was appointed to prepare an obituary notice of Dr. Morton.

On motion, the Society resolved to attend the funeral of Dr. Morton.

Mr. Peale called the attention of members to a small tract which had been laid on the table by the Librarian, Mr. C. B. Trego, on the title page of which there was a print of an ancient British Torque collar, and desired them to notice the striking similarity that existed between it and the gold rings, of African manufacture, exhibited at the last meeting of the Society by Mr. W. P. Du Bois, assistant assayer of the Mint, United States.

The pamphlet states that the collar (of which a plate is given on the title page) is made of brass, and that they have been found made of gold and bronze.

The African rings are of native manufacture, and twisted throughout nearly their entire length, leaving only a small part of each end plain and round, exhibiting a similitude which is not identical, only in the fact that the African rings are not bent into hooks at each extremity, as in that of British manufacture.

Mr. Peale adverted to the singular circumstance of such identity of form, in rings made in parts of the earth so widely separated, and in periods of time so remote as that of the ancient British and modern Africans; and stated that he had seen a gold bracelet of East Indian manufacture, which was similar in construction, so far as twisted strands of metal would present the same general form.

Pending nominations, from Nos. 256 to 259, and new nomination, No. 260, were read.

Stated Meeting, June 20.

Present, seventeen members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From Peter M'Call, dated Fourth street, 19th June, 1851, acknowledging the receipt of notice of his election as a member of this Society:—

From the Society of Antiquaries, dated Somerset House, 28th March, 1851, acknowledging the receipt of the Proceedings of this Society, No. 45.

From the Royal Geographical Society of Cornwall, dated Penzance, 6th May, 1851, announcing the transmission of a donation to this Society, and acknowledging the receipt of the Transactions and Proceedings of this Society:—

From the First Class of the Royal Institute of Sciences, Belles-Lettres and Arts, of the Netherlands, dated Amsterdam, 31st October, 1850, announcing a donation to this Society:—

From the Batavian Society of Sciences, dated Haarlem, 24th March, 1851, accompanying a donation, and acknowledging the receipt of Vol. X. Part I., of the Transactions of this Society: and—

From Isaac Remington, M.D., Secretary of the Medical Society of the State of Pennsylvania, enclosing a copy of a vote of thanks to this Society, for the use of the Hall at the late session of the State Medical Society.

The following donations were announced:—

FOR THE LIBRARY.

Verhandelingen der Eerste Klasse van het Koninklijk-Nederlandsche Instituut van Wetenschappen, Letterkunde, en Schoone Kunsten, te Amsterdam. Derde Reeks. Deel 2 and 3. Amsterdam, 1850. 4to.—*From the Royal Netherlands Institute of Sciences, Belles Lettres and Arts.*

Tijdschrift voor de Wis-en Natuurkundige Wetenschappen, uitgegeven door de Eerste Klasse van het Koninklijk-Nederlandsche Instituut van Wetenschappen, Letterkunde, en Schoone Kunsten. Derde Deel. Aflevering 3 and 4. Amsterdam, 1850. 8vo. *From the same.*

Jaarboek van het Koninklijk-Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten, voor 1850. Amsterdam. 8vo.—*From the same.*

Natuurkundige Verhandelingen van de Hollandsch Maatschappij der Wetenschappen te Haarlem. Tweede Verzameling. VII. Deel. Leiden, 1851. 4to.—*From the Batavian Society of Sciences at Haarlem.*

Bulletin de la Société de Géographie. Troisième Série. Tome XIV.
Paris. 8vo.—*From the Geographical Society of Paris.*

Annales des Mines. Quatrième Série. Tome XVIII. 6 livraison
de 1850. Paris. 8vo.—*From the Engineers of the Ecole des
Mines.*

Recherches sur le Porphyre Rouge Antique, et sur le Syenite Rose
d'Egypte. Mémoire sur la Constitution Minéralogique et Chi-
mique des Roches des Vosges. Par M. A. Delesse, Ingénieur
des Mines. 1850. 8vo.—*From the Author.*

Proceedings of the Royal Institution of Great Britain, March 28 to
May 9, 1851. London. 8vo.—*From the Institution.*

Monthly Notices of the Royal Astronomical Society. Vol. XI. No. 5.
March 14, 1851. London. 8vo.—*From the Society.*

Quarterly Journal of the Chemical Society. Vol. IV. No. 13. April
1, 1851. London. 8vo.—*From the Society.*

Quarterly Journal of the Geological Society. Vol. VII. No. 25.
Feb. 1, 1851. London. 8vo.—*From the Society.*

Proceedings of the Royal Irish Academy. Vol. IV. Dublin, 1850.
8vo.—*From the Academy.*

Transactions of the Royal Geological Society of Cornwall. Vol. VI.
Penzance, 1846. 8vo.—*From the Society.*

Royal Geological Society of Cornwall. Thirty-fourth, Thirty-fifth,
Thirty-sixth, and Thirty-seventh Annual Reports of the Council,
with the President's Address, and Papers and Notices read to the
Society. Penzance, 1847, 8, 9, 50. 8vo.—*From the same.*

Proceedings of the American Association for the Advancement of
Science. Fourth Meeting, held at New Haven, August, 1850.
Washington and New York. 8vo.—*From the Association.*

The African Repository. Vol. XXVII. No. 5. May, 1851. Wash-
ington. 8vo.—*From the American Colonization Society.*

Journal of the Franklin Institute. Third Series. Vol. XXI. Nos. 5
and 6. May and June, 1851. Philadelphia. 8vo.—*From the
Institute.*

Cartas para servir de introduction a la Historia Primitiva de las Na-
ciones Civilizadas de la America Setentrional. Por el Abate Don
E. Carlos Brasseur de Bourbourg, miembro de la Sociedad Mexi-
cana de Geografia y Estadística, &c. Mexico, 1851. 8vo.—*From
the Author.*

Production of Vital Force: A Discourse delivered before the Massa-
chusetts Medical Society, at their Annual Meeting, May 30, 1849.

- By Edward Jarvis, M.D., Fellow of the Society. Boston, 1849. 8vo.—*From the Author.*
- On the Comparative Liability of Males and Females to Insanity, and their Comparative Curability and Mortality when Insane. By Edward Jarvis, M.D., of Dorchester, Mass. Utica, 1850. 8vo. *From the same.*
- A Collection of Pamphlets, 24 in number, relating to the Public Institutions, Finances, Education and Statistics of the State of Massachusetts, the City of Boston, and the Town of Dorchester.—*From Dr. Edward Jarvis.*
- Quæstionum Ionicarum Liber. Quo novam Hippocratis editionem indicit Auctor Justus Florianus Lobeck Dr. Fasciculus primus. Regimontii Prussorum. 1850. 8vo.—*From the Author.*
- Historical and Statistical Information respecting the History, Condition and Prospects of the Indian Tribes of the United States: collected and prepared under the direction of the Bureau of Indian Affairs, per Act of Congress of March 3, 1847. By Henry R. Schoolcraft, LL.D. Published by authority of Congress. Part I. Philadelphia, 1851. 4to.—*From L. Lea, Esq., Commissioner of Indian Affairs.*
- Key to the Indian Language of New England, in the Etchemin or Passamaquoddy Language, spoken in Maine, and St. John's, New Brunswick. By Joseph Barratt, M.D. No. 1. Middletown, Conn. 1850. 8vo.—*From the Author.*
- Contributions to Conchology, No. 9: with Catalogue of the Land Shells which inhabit Jamaica. By C. B. Adams, Professor of Zoology in Amherst College, Mass. April, 1851. 8vo.—*From the Author.*
- The Medical News and Library. Vol. IX. No. 102. June, 1851. Philadelphia. 8vo.—*From Blanchard & Lea.*
- The Plough, the Loom, and the Anvil. Vol. III. Nos. 11 and 12. May and June, 1851. Philadelphia. 8vo.—*From the Editor.*
- Reports of the Pennsylvania Hospital for the Insane, for the Years 1846, 7, 8, 9, 50. By Thomas S. Kirkbride, Physician to the Institution. Philadelphia, 1851. 8vo.—*From the Author.*
- First Annual Report of the President and Directors of the Bellefontaine and Indiana Rail Road Company; with Statement of the Treasurer, and Report of the Chief Engineer, January, 1851. Cleveland, Ohio. 8vo.—*From W. Milnor Roberts, Esq., Chief Engineer.*
- The Documentary History of the State of New York; arranged un-

der the direction of the Hon. Christopher Morgan, Secretary of State. By E. B. O'Callaghan, M.D. Vol. III. Albany, 1850. 8vo.—*From the Regents of the University of the State of New York.*

Sixty-fourth Annual Report of the Regents of the University of the State of New York. Made to the Legislature, March 1, 1851. Albany. 8vo.—*From the same.*

Professor Frazer announced the death of Joel B. Reynolds, a member of this Society, who died on the 16th May last, in the 25th year of his age. His death was occasioned by the explosion of a steam boiler. Prof. F. described the circumstances of the melancholy accident, and accompanied the announcement with a notice of the scientific pursuits and merits of the deceased.

Mr. Justice announced the death of Mr. Wm. Hembel, a member of this Society, who died on the 12th of the present month, in the 88th year of his age.

The following letter from Dr. Locke, on the subject of a new method of recording time and astronomical observations on the register of an electro-magnetic telegraph, was read, and a specimen of the work shown.

Cincinnati, June 3d, 1851.

To the American Philosophical Society.

Although I have for some time ceased to correspond with your learned institution, yet I have not ceased to labour in my small way for the advancement of those objects which are interesting to all of us. I have lately been engaged in polishing up my chronographic invention of 1848, especially as regards cylindrical registering of astronomical observations, with reference to local or fixed observatory operations. I announced last autumn, in the National Intelligencer, my method of regulating the cylinder or the equatorial clock, by means of electro-magnetic power derived from the sidereal clock, and acting in aid of a weight. By this means the cylinder or clock, adjusted to a rate perceptibly too slow, receives a supplementary power by consecutive impulses, equalized by an intermediate spring, and resulting in a measured motion of great uniformity. During the winter I devised a new mode of working the electro-telegraphic registering upon the cylinder. This will be best understood by adverting to the Morse register, in which the fillet of paper passes snugly over a

roller, with a narrow groove corresponding to the point of the reciprocating stile or pen operating on the outside. This groove enables the pen to indent and crease the paper, by pushing it downward without resistance. These indentations, thus made, were to some extent indefinite and rather illegible, unless when the light is received tangentially; and were always liable to become obscure or obliterated by pressure and long keeping.

In registering upon a sheet of paper enveloping a revolving cylinder, this use of a groove is impracticable; and the paper lying on a hard surface could with difficulty be marked by dot or indentation. As a substitute for the groove, I have interposed a covering of velvet, or the like substance, between the paper and the solid cylinder, and I am thus enabled to mark by sharp needle punctures, in a manner, as I think, scarcely needing further attempts at improvement.

I enclose you a specimen cut from a sheet two feet square, and containing the work of four hours. This specimen is a zone or belt, including the circumference of the cylinder, which revolves once per minute, and receives in that time sixty punctures, distant from each other about ten millimetres. When the sheet is cut open and developed from the cylinder, it presents a table having readings by intersections derived from a vertical column on the left, and a horizontal column at the top. On the left the column of seconds reads from 0 to 60, and on the top the headings are hours and minutes. Thus it appears that an observation, or a puncture intermediate between any two seconds, can be read as easily in the developed sheet as on the cylinder. The successive spirals or revolutions of minutes return very close to each other ($2\frac{1}{2}$ millimetres or one-tenth of an inch), and the uniformity of motion of the cylinder is most severely tested by the lines which the returning punctures make more or less parallel to the cylinder's axis. This sample was produced without the magnetic regulator, the cylinder running with a free flying motion. It is remarkable, that with this flowing motion we should be enabled to generate a helix 500 feet long, and arrive at a final predicted point within five millimetres or two-tenths of an inch; or, in other words, after four hours of work, in which 14,400 punctures had been made, the lines of returning dots had at no point departed half of a second from a line parallel to the axis of the cylinder. The several spaces representing the seconds, differ from the 60th part of the circumference of the cylinder not more than $\frac{1}{28800}$ th part.

Means by which this Uniformity of Continuous Motion has been attained.

1. Screw axes for progressive motion, to generate a spiral, have been rejected.

2. The progressive motion is made by the registering head bearing the magnet and stile, or puncturing pen, and travelling on rails like the V bars of a turning lathe.

3. The progressive motion of this registering head is not derived from the rotation of the cylinder, but that head moved independently by means of a little clock being attached to running cord of the same.

4. The puncturing pen acts perpendicularly to the surface of the cylinder, and having a joint by which it yields to the cylinder's motion, it offers no retarding drag.

5. The cylinder is, in all respects, left free to revolve, and its frictions, including all of its wheels, revolve or return, at short intervals, into themselves. Incidentally this punctured sheet, by being interposed between the eye and a candle, and moved rapidly in curves and waves, exhibits lines in a curiously figured manner, showing the candle flame as a screw, sometimes right handed and sometimes left handed, &c.

Very respectfully yours,

JOHN LOCKE.

Mr. Justice laid upon the table for inspection, two daguerreotypes of the moon, taken by Mr. Whipple, of Boston, through the refracting telescope of the Cambridge Observatory; one representing it in its first quarter, the other when nearly at the full.

He mentioned, that to those acquainted with the different localities of the moon's surface, the accuracy of the pictures is highly gratifying when placed in the direct rays of the sun, and viewed through a magnifying lens. Hitherto any attempt to portray the scenery of the moon by drawings, has been entirely unsatisfactory in conveying a true impression of its diversified appearance through a telescope; but he now hoped, from the constant improvement in the art of daguerreotyping, that an enlarged picture of the moon's disc may be obtained, from which engraved maps might be made, so that the selenography of our satellite may be studied in our schools, in conjunction with the geography of our own planet.

Mr. Trego remarked, that some recent excursions into the country in different parts of south-eastern Pennsylvania, and a small portion of New Jersey, near the Delaware, had afforded him an opportunity of making some observations upon the habits of the insect commonly called *locust* (*cicada septendecem*), and as to the extent of the region over which their present periodical visitation extends. He hoped that from further inquiry, and the observations of others, the boundaries of the region visited by the locusts this year may be approximately ascertained. Among other facts noticed by him, he mentioned that the low sandy grounds along the Delaware and Susquehanna rivers appeared to be almost entirely exempt from the visits of this insect, while on the neighbouring higher and more clayey or tenacious soils they were abundant. He had observed that the twigs of the young chestnut trees appeared to be a favourite place of the female for the deposit of her eggs, but that many other forest and fruit trees were also chosen for this purpose, not, however, so universally as the chestnut. Pines, and other resinous trees, appeared to be nearly or quite exempt from their attacks.

Prof. Tucker remarked, that he had seen the twigs of the red cedar (*juniperus virginiana*) affected by the punctures of the female locust.

Dr. Bridges observed, that a reason why the locust avoids a very sandy soil may probably be found in the fact, that when about to emerge from the earth, the insect forms for its passage a perpendicular cylindrical perforation in the soil, by which it can ascend and descend at pleasure, until it finally leaves the ground. The inside of this tube is plastered smoothly with clay, which, in a sandy soil, could not readily be effected, and in the loose sand these perforations would not be sufficiently firm or durable for the purposes of the insect.

Further remarks on the subject were made by Prof. Frazer, Mr. Justice, Dr. B. H. Coates, and others.

Pending nominations, from No. 256 to No. 261, inclusive, were read.



P R O C E E D I N G S
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V. JULY, 1851—FEBRUARY, 1852. No. 47.

Special Meeting, July 14.

Present, five members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

The presiding officer announced the death of Benjamin W. Richards, Esq. Treasurer of the Society, which occurred on the 13th inst. in the fifty-third year of his age, and stated that he had called this special meeting in consequence thereof.

Whereupon, after some remarks by Judge Kane on the public and private life and virtues of the deceased, the following resolutions were proposed by him and unanimously adopted.

Resolved, 1. That the members will attend the funeral as mourners.

2. That a member be appointed to prepare a notice of the life and character of Mr. Richards, the late Treasurer of this Society.

3. That the members tender their sympathy and condolence to the family of the deceased, and that the Secretary be instructed to communicate to them a copy of these proceedings.

Judge Kane was appointed, under the second resolution, to prepare an obituary notice of Mr. Richards.

Stated Meeting, July 18.

Present, twelve members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Imperial Society of Naturalists of Moscow, dated Moscow, 18th—30th April, 26th September, and 8th October, 1850, announcing donations to this Society:—

From the Smithsonian Institution, dated Washington, July 16, 1851, returning acknowledgment for No. 46 of the Proceedings of this Society: and—

From Charles K. Dillaway, for the Publication Committee of the Boston Society of Natural History, dated Boston, July 12, 1851, accompanying a portion of the Proceedings of that Society, which had not been previously received.

The following donations were announced:—

FOR THE LIBRARY.

Quarterly Journal of the Geological Society. Vol. VIII. No. 26.

May 1, 1851. London. 8vo.—*From the Society.*

Proceedings of the Linnean Society of London. Nos. XXXV. to XLIII. (Nov. 7, 1848, to June 18, 1850), with the title page and Index to Vol. I. and a List of Members of the Society for 1850.

London. 8vo.—*From the Society.*

Proceedings of the Geological and Polytechnic Society of the West Riding of Yorkshire. 1850. Leeds. 8vo.—*From the Society.*

Thirtieth Report of the Council of the Leeds Philosophical and Literary Society, at the close of the session, 1849–50. Leeds. 8vo.—*From the Society.*

Bulletin de la Société Impériale des Naturalistes de Moscou. No. 4 de 1849, et Nos. 1, 2, de 1850. Moscow. 8vo.—*From the Society.*

Smithsonian Contributions to Knowledge. Vol. II. Washington, 1851. 4to.—*From the Smithsonian Institution.*

Experimental Researches in Electricity. 24th, 25th, 26th and 27th Series. By Michael Faraday, Esq. D.C.L. F.R.S. London. 4to. (Phil. Trans. Part 1, for 1851).—*From the Author.*

The African Repository. Vol. XXVII. Nos. 6 and 7. June and July, 1851. Washington. 8vo.—*From the American Colonization Society.*

Elements of Latin Pronunciation, for the use of Students in Language, Law, Medicine, Zoology, Botany, and the Sciences generally, in which Latin words are used. By S. S. Haldeman, A.M. Professor of Natural History in the University of Pennsylvania. Philadelphia, 1851. 8vo.—*From the Author.*

Relation of the Chemical Constitution of Bodies to Taste. By Prof. E. N. Horsford, of Harvard College. 8vo.—*From the Author.*

The American Journal of the Medical Sciences. No. XLIII. New

Series. July, 1851. Philadelphia. 8vo.—*From Isaac Hays, M.D., Editor.*

The Medical News and Library. Vol. IX. No. 103. July, 1851. Philadelphia. 8vo.—*From Blanchard & Lea.*

A Collection of Pamphlets, 173 in number, embracing Public Documents of the State of Massachusetts, the cities of Boston, Roxbury and Lowell, the towns of Concord and Dorchester; Reports of the Massachusetts General Hospital, the State Lunatic Hospital at Worcester, the American Asylum at Hartford, &c. &c. with a variety of others on different subjects.—*From Dr. Edward Jarvis.*

Documents Relating to the Manufacture of Iron in Pennsylvania. Published on behalf of the Convention of Iron Masters which met in Philadelphia the 20th December, 1849. Philadelphia, 1850. 8vo.—*From Charles E. Smith, Esq.*

The Plough, the Loom and the Anvil. Vol. IV. No. 1. July, 1851. Philadelphia. 8vo.—*From F. G. Skinner, Esq. Editor.*

Monthly Notices of the Royal Astronomical Society. Vol. XI. No. 7. May 9, 1851. London. 8vo.—*From the Society.*

Astronomical Observations made during the Year 1846, at the National Observatory, Washington; under the direction of M. F. Maury, Lieut. U. S. Navy, Superintendent; Commodore L. Warrington, Chief of Bureau of Ordnance and Hydrography. Vol. II. Washington, 1851. 4to.—*From the Observatory.*

Journal of the Franklin Institute. Third Series. Vol. XXII. No. 1. July, 1851. Philadelphia. 8vo.—*From the Institute.*

Proceedings of the Boston Society of Natural History. Vol. II. from page 137 to end: Vol. III. complete: Vol. IV. page 1 to 16. Boston. 8vo.—*From the Society.*

Judge Kane, pursuant to appointment at the special meeting held 14th inst., read an obituary notice of B. W. Richards, Esq. late Treasurer of the Society.

The stated business of the meeting, the balloting for new members, was necessarily postponed, in consequence of there not being the requisite quorum present.

Mr. Trego, on the part of the Reporter, laid on the table No. 46 of the Proceedings of the Society, recently published.

On motion, it was resolved, that the Society will, at its next meeting, proceed to elect a Treasurer in the place of Mr. Richards, deceased, and that, in the mean time, the Committee

of Finance take order for the performance of the duties of the office.

Pending nominations, Nos. 256 to 261, inclusive, were read.

Stated Meeting, August 15.

Present, five members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From A. T. Kupffer, Director of the Central Physical Observatory at St. Petersburg, dated 15th—27th June, 1851, in relation to an exchange of publications with this Society:—

From Wilhelm Braumüller, publishing agent of the Imperial Academy of Sciences at Vienna, announcing a donation from the Academy:—

From the Linnean Society of London, dated Soho Square, June 1851, returning thanks for the Proceedings of this Society, No. 45:—

From the American Antiquarian Society, dated Worcester, Mass., July 17, 1851,—and from the Regents of the University of the State of New York, dated Albany, July 21, 1851, acknowledging the receipt of No. 46 of the Proceedings.

The following donations were announced:—

FOR THE LIBRARY.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften.—Philosophisch-historische Classe. Jahrgang, 1850. (Jan. to Dec.) Wien, 1850. 8vo.—*From the Imperial Academy of Sciences at Vienna.*

Archiv für Kunde öesterreichischer Geschichts-Quellen. Herausgegeben von der zur Pflege vaterländischer Geschichte aufgestellten Commission der Kaiserlichen Akademie der Wissenschaften. Jahrgang, 1850. I Band, 1, 2, 3, 4 Heft. II Band, 1 Heft. Wien, 1850. 8vo.—*From the same.*

Fontes Rerum Austriacarum. Oesterreichische Geschichtsquellen. Herausgegeben von der Historischen Commission der Kaiserlichen

- Akademie der Wissenschaften in Wien. Zweite Abtheilung. Diplomataria et Acta. III Band. Liber Foundationum Monasterii Zwetlensis. Wien, 1851. 8vo.—*From the same.*
- Transactions of the Linnean Society of London. Vol. XX. Part 3. With List of the Society for 1850. London, 1851. 4to.—*From the Society.*
- Proceedings of the Linnean Society. No. XLIV. London, 1851. 8vo.—*From the same.*
- Proceedings of the Royal Institution of Great Britain, from May 16 to June 13, 1851. London. 8vo.—*From the Institution.*
- Annales des Mines. Tome XIX. 1 livraison de 1851. Paris. 8vo.—*From the Engineers of l'Ecole des Mines.*
- Smithsonian Reports. Notices of Public Libraries in the United States of America. By Charles C. Jewett, Librarian of the Smithsonian Institution. Washington, 1851. 8vo.—*From the Smithsonian Institution.*
- The American Journal of Science and Arts. Second Series. Vol. XII. No. 34. July, 1851. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*
- The Massachusetts System of Common Schools, being an enlarged and revised edition of the Tenth Annual Report of the First Secretary of the Massachusetts Board of Education. Boston, 1849. Reports of the Massachusetts Colonization Society, from 1844 to 1850, inclusive. First Annual Report of the Trustees of Donations for Education in Liberia. Jan. 1851. Twenty-fifth Annual Report of the Board of Managers of the Prison Discipline Society. Boston. May, 1850. Ten Years of Colportage in America. New York, 1851. 8vo.—*From the Hon. Simon Greenleaf.*
- A Perpetual Calendar for Old and New Style. Nathaniel B. Shurtleff. Second Edition. Boston, 1851. 4to. (Privately printed. 150 copies for private use).—*From N. B. Shurtleff, Esq.*
- Experimental Researches, illustrative of the functional oneness, unity and diffusion of Nervous Action, in opposition to the anatomical assumption of four sets of Nerves and a fourfold set of functions and transmitted impressions; with a brief exposition of the philosophy of vivisection and of sensation. By Bennet Dowler, M.D., of New Orleans, &c. &c. New Orleans. June, 1851. 8vo.—*From the Author.*
- The Medical News and Library. Vol. IX. No. 104. August, 1851. Philadelphia. 8vo.—*From Blanchard & Lea.*

The Plough, the Loom and Anvil. Vol. IV. No. 2. August, 1851.
Philadelphia. 8vo.—*From F. G. Skinner, Esq. Editor.*

Report of the Twentieth Meeting of the British Association for the
Advancement of Science, held at Edinburgh, in July and August,
1850. London, 1851. 8vo.—*From the Association.*

Journal of the Franklin Institute. Third Series. Vol. XXII. No. 2.
August, 1851. Philadelphia. 8vo.—*From the Institute.*

The African Repository. Vol. XXVII. No. 8. August, 1851.
Washington. 8vo.—*From the American Colonization Society.*

Proceedings of the New Jersey Historical Society. Vol. V. No. 4.
Newark, 1851. 8vo.—*From the Society.*

The minutes of the Board of Officers and Council of the Society, at their last meeting, were read.

The Society then proceeded to the nomination and election of a Treasurer, *pro tem.*, and Mr. Trego was nominated and elected.

Pending nominations, Nos. 256 to 261, and new nomination, No. 262, were read.

Stated Meeting, September 19.

Present, seventeen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Etat Major of the Corps of Mining Engineers of Russia, dated St. Petersburg, 6th—18th of February, 1851; from Charles C. Rafn, Secretary of the Royal Society of Northern Antiquaries, dated Copenhagen, June 4, 1851; from W. S. Derrick, Esq., Acting Secretary of State, dated Washington, 14th August, 1851; from Drs. A. A. Gould and D. H. Storer, acting in pursuance of the will of the late Dr. Amos Binney, all announcing donations to the Society's library: and—

From the Royal Society of London, dated Somerset House, June 25, 1851, acknowledging the receipt of No. 45 of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

- Antiquarisk Tidsskrift, udgivet af det Kongelige Nordiske Oldskrift-Selskab. 1843—1848. 2 vols. Kiöbenhavn. 8vo.—*From the Royal Society of Northern Antiquaries, Copenhagen.*
- Abstract of the Report of the Royal Society of Northern Antiquaries at Copenhagen, at the General Anniversary Meeting, 15th February, 1851. 8vo.—*From the same.*
- Guide to Northern Archæology, by the Royal Society of Northern Antiquaries at Copenhagen. Edited for the use of English Readers by the Right Honourable, the Earl of Ellesmere. London, 1848. 8vo.—*From the Earl of Ellesmere.*
- Annales de l'Observatoire Physique Central de Russie: Publiées par ordre de sa Majesté l'Empereur Nicolas I. sous les auspices de M. le Comte Wrontchenko, Ministre des Finances, et Chef du Corps des Ingénieurs des Mines. Par A. T. Kupffer, Directeur de l'Observatoire Physique Central. Année, 1847. Nos. 1 & 2. St. Petersburg, 1850. 4to.—*From the Etat Major of the Corps of Mining Engineers of Russia.*
- Philosophical Transactions of the Royal Society of London, for the Year 1851. Part I. London, 1851. 4to.—*From the Society.*
- Proceedings of the Royal Society. Vol. VI. Nos. 77, 78. London, 1851. 8vo.—*From the same.*
- Journal of the Royal Geographical Society of London. Vol. XX. Part 2. London, 1851. 8vo.—*From the Society.*
- Monthly Notices of the Royal Astronomical Society. Vol. XI. No. 8. June 13, 1851. London. 8vo.—*From the Society.*
- Executive Documents, 1st Session of 31st Congress, 1849-50. 11 vols.
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| Senate Journal, | „ | „ | 1 „ |
| Senate Documents, | „ | „ | 1 to 10 & 13, 14. |
| Do. Do. Miscellaneous, | „ | „ | 2 vols. |
| Senate Reports, | „ | „ | 1 „ |
| House Journal, | „ | „ | 1 „ |
| Miscellaneous Documents, H. R. | „ | „ | 2 „ |
| Reports of Committees, | „ | „ | 3 „ |
- From the Department of State, Washington.*
- Plates to Magnetical and Meteorological Observations made at the Girard College, Philadelphia, 1840-45. 2d Session of 28th Congress, 1844-5. 1 vol. Washington. 8vo.—*From the same.*

- Proceedings of the Boston Society of Natural History, from Jan. 1 to May 21, 1851. Boston. 8vo.—*From the Society.*
- The American Journal of Science and Arts. Second Series. Vol. XII. No. 35. Sept. 1851. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*
- The Medical News and Library. Vol. IX. No. 105. Sept. 1851. Philadelphia. 8vo.—*From Blanchard & Lea.*
- The Plough, the Loom and the Anvil. Vol. IV. No. 3. September, 1851. Philadelphia. 8vo.—*From F. G. Skinner, Esq. Editor.*
- Deposition of Richard C. Taylor, respecting the Asphaltum Mine at Hillsborough, in the county of Albert and province of New Brunswick. Supreme Court, Halifax, Nova Scotia. Abraham Gesner vs. Halifax Gas Light Company. Philadelphia, 1851. 8vo.—*From Richard C. Taylor.*
- The Terrestrial Air-breathing Mollusks of the United States and the adjacent Territories of North America: described and illustrated by Amos Binney. Edited by Augustus A. Gould. Vols. 1, 2. Boston, 1851. 8vo.—*From Drs. A. A. Gould and D. H. Storer, in pursuance of the Will of the late Dr. Binney.*
- Annals of the Lyceum of Natural History of New York. Vol. V. No. 3. May, 1851. New York. 8vo.—*From the Lyceum.*

Mr. Lea announced the death of James Fenimore Cooper, a member of this Society, who died at Cooperstown, N. Y., on the 14th of the present month, aged sixty-two.

Dr. F. Bache announced the death of Peter Pedersen, a member of this Society, who died at Copenhagen, August 16, 1851, nearly eighty years of age.

Mr. Peale, in the name of the Officers and Clerks of the U. S. Mint, presented to the Society a medal of Dr. Robert M. Patterson, on silver gilt, presented by them to Dr. Patterson, late Director of the Mint. Mr. Peale read the proceedings of the officers of the Mint on the occasion of the retirement of Dr. Patterson from the office, with his reply, and explained the character of the medal and the devices thereon.

Mr. Lea read the following correspondence between himself and Prof. Agassiz, in relation to the observations of Mr. Lea on the Anatomy of the Naiades, laid before the Society on the 21st of March last.

Cambridge, 26th July, 1851.

My Dear Sir,—I ought long ago to have answered your letter respecting the Naiades, but pressing engagements have made it an impossibility for me to attend to my correspondence for some time past. Moreover, I did not fully understand the drift of your claim, and conscious of duly appreciating the real value of your investigations in the history of that highly interesting group of mollusks, it did not occur to me that you could suspect me of even an accidental neglect of your observations. There cannot be a single naturalist at all conversant with that subject, who has not read and studied your numerous and highly valuable papers on the fresh water and land shells, as well as on the fossils. But I find from the proceedings of the American Philosophical Society, that there is such an apprehension on your part. Let me therefore say, what you might have already suspected, even from the very short abstract of my communication published in the proceedings of the Boston Natural History Society, that my object in investigating the structure of Naiades has been very different from yours. If you will await the publication of my paper, you will satisfy yourself that I know exactly who has first observed this or that fact respecting the organization of these animals, and that I give every body due credit for what he has done. But I have been testing the peculiarities of structure of the Naiades with the view of finding new characters for classifying, or rather dividing them into genera. Whether the facts alluded to were known or not, is a matter of no consequence in this point of view, though many of the points alluded to by me have not been noticed before, as you will perceive in reading my paper which is soon to appear; and if I use as *generic* characters, in dividing the Naiades into many genera, as you will find I do, peculiarities which have never been used as such, you will, no doubt, acknowledge that I have introduced new characters in the classification of these animals, and, as I believe, greatly improved their natural arrangement. You will, indeed, find that I use as generic characters, peculiarities which you have considered as having no other importance than that of affording additional facilities for the distinction of species; characters which, in your opinion, cannot even be employed as distinguishing natural groups, since even in your latest synopsis they are nowhere introduced as such. You will see moreover, that, whether I am right or wrong is another question, I have been led by the use of those very characters, in most instances, to separate from one another species which you have united as forming natural divisions, and to bring together species which you have

separated. As my arrangement now stands, it differs as much as can be from yours; but I should feel very happy if it meets your approbation when published, and if you are then as fully satisfied as you seem now to be, that there is no difference between the final result of your observations and mine.

As I am anxious that nobody should draw incorrect inferences from your communication to the Philosophical Society, I beg you will read this letter to that learned society, and if you have sent abroad separate copies of your notice, do me the favour to have as many copies of my letter struck off, and direct it also to your friends.

I trust this explanation will satisfy you that I am the last man willing to appropriate to himself the observations of others, and I remain, as before,

Your sincere friend,

L. AGASSIZ.

I. LEA, Esq., Philadelphia.

Philadelphia, July 29, 1851.

My Dear Sir,—I yesterday received your letter of 26th, and beg to assure you that I will read it to the Philosophical Society, as you request. Our next meeting takes place on the 15th of August, and if I am in town then, I shall not fail to read it. Will you permit me to say that I do not think you have entirely understood my communication to the Society? My object was simply to reclaim some discoveries made long since by me, which, in the report of the Boston Natural History Society, are given as the result of investigations recently made by you. I attributed this, of course, to inadvertence on your part, but it was nevertheless due to myself to claim what I consider to be the result of my own labours. What you say in your letter, regarding your own investigations and your intention to establish a new anatomical system of classification, different from that of my system, founded on the calcareous envelope of the animal, meets my hearty concurrence. When I understood, some time since, that you were making examinations for that purpose, I was rejoiced to find that you, who were so skilful and experienced in every branch of comparative anatomy, were giving your analytical powers to a group in natural history which had delighted me for so many years; but to which, unhappily, I could not give the time requisite to additional labour of minute dissection. In supposing that I could have any possible objection to your working in the same field, or your forming a different and more natural system, founded on the soft

parts of the animal, you have entirely misunderstood me. What I had done, many years since, in investigating the structure of the *Naiades*, induced me then to believe—and I have never since changed my opinion—that the best natural arrangement existed in the difference of structure of the oviducts.

Nothing could give me more pleasure than having co-labourers, able and masterly like yourself, in this most interesting subject. As I have intended, for some years past, to take advantage of my first leisure to publish an extensive monograph of our *Naiades*, all the light or assistance which I could acquire, from all zoologists, would be most desirable to me, and who, in comparative anatomy, could as well aid in such illustration as yourself, so distinguished in this wide field of research? Be assured that when your memoir on the structure and classification of this interesting group of mollusks shall be published, that I shall consider it as a great advance in this branch of zoology.

You will see, in what I have said above, that you have misunderstood me entirely in supposing that I could, for one moment, have the slightest objection to your making any arrangement or system that your great experience and good judgment might dictate. If you will look again at my reclamation, you will see that I simply desired to retain the credit of my published observations, which had been recently stated as new, in the report of the Boston Society of Natural History, inadvertently, I hoped, on your part. I claim nothing more whatever, and trust that you will continue your labours without intermission, until you shall have accomplished the memoir you are engaged in, and which you are so able to complete.

I repeat that I will read your letter to the American Philosophical Society, and at the same time I will explain what I have said above, expressing a hope that you will soon finish your examinations, and give to science the result. But I am sure, on reflection, you will excuse me from printing and distributing your letter, which relates to points on which we do not differ, scarcely touching the simple fact of the reclamation, which is all I contend for.

Hoping, my dear sir, that in all this you will concur with me,

I am very sincerely and truly yours,

ISAAC LEA.

Prof. L. AGASSIZ, Cambridge, Mass.

Pending nominations, Nos. 256 to 262, inclusive, were read.

Stated Meeting, October 3.

Present, thirteen members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From the Corporation of the University in Cambridge, Massachusetts, dated Harvard College, Cambridge, July 16, 1851, acknowledging the receipt of the Proceedings of this Society, No. 46: and—

From M. Quetelet, Secretary of the Royal Academy of Science, Letters and the Fine Arts, of Belgium, dated Brussels, 14th September, 1851, announcing the transmission of a donation to this Society.

The following donations were announced:—

FOR THE LIBRARY.

Quarterly Journal of the Geological Society. Vol. VII. No. 27.

August 1, 1851. London. 8vo.—*From the Society.*

Journal of the Franklin Institute. Third Series. Vol. XXII. No. 3.

September, 1851. Philadelphia. 8vo.—*From the Institute.*

American Journal of the Medical Sciences. No. XLIV. New Series.

October, 1851. Philadelphia. 8vo.—*From the Editor, Dr. Isaac Hays.*

The Medical News and Library. Vol. IX. No. 106. Oct. 1851.

Philadelphia. 8vo.—*From Blanchard & Lea.*

A Manual for Attendants in Hospitals for the Insane. By John Curwen, M.D., Superintendent and Physician of the Pennsylvania State Lunatic Hospital. Philadelphia, 1851. 12mo.—*From the Author.*

The Field Practice of laying out Circular Curves for Rail Roads.

By John C. Trautwine, Civil Engineer. Philadelphia. 1851.—*From the Author.*

Pending nominations, Nos. 256 to 262, inclusive, were read.

Stated Meeting, October 17.

Present, twenty members.

Dr. PATTERSON, President, in the Chair.

Mr. Isaac Hazlehurst, a recently elected member of the Society, was presented and took his seat.

Letters were read:—

From the Royal Academy of Sciences at Berlin, dated 15th August, 1850, and 15th August, 1851, announcing donations to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Abhandlungen der Königl. Akademie der Wissenschaften zu Berlin. Jahrgang, 1848 und 1849. 2 vols. 4to. Berlin, 1850, 1851.—*From the Royal Academy of Sciences at Berlin.*

Monatsbericht der Königl. Preuss. Akademie der Wissenschaften zu Berlin. July, 1849, to June, 1851. Berlin. 8vo.—*From the same.*

Preface. Voyage au Ouaday, par le Cheykh Mohammed Ibn-Omar el Taunsi. Traduit de l'Arabe par le Dr. Perron, &c. &c. Preface par M. Jomard. Paris, 1851. 8vo.—*From the Author.*

Proceedings of the Boston Society of Natural History. 1 sheet. Vol. IV. pp. 65 to 80. Boston. 8vo.—*From the Society.*

Journal of the Franklin Institute. Third Series. Vol. XXII. No. 4. October, 1851. Philadelphia. 8vo.—*From the Institute.*

The African Repository. Vol. XXVII. No. 10. October, 1851. Washington. 8vo.—*From the American Colonization Society.*

Electro-Magnetic Telegraph Case. Circuit Court of the United States: Eastern District of Pennsylvania: In Equity. Benjamin B. French et al. versus Henry J. Rogers et al. 2 vols. 4to. Philadelphia, September, 1851.—*From George Harding, Esq.*

Essay on the Classification of Nemertes and Planariæ: preceded by some general considerations on the Primary Divisions of the Animal Kingdom. By Charles Girard. 8vo.—*From the Author.*

The Plough, the Loom and the Anvil. Vol. IV. No. 4. October, 1851. Philadelphia. 8vo.—*From F. G. Skinner, Editor.*

Judge Kane made a verbal communication relative to the American Expedition in search of Sir John Franklin.

The American party, after passing the "north water" of Baffin's bay, passed in a violent storm to Lancaster sound, and thence to Wellington Inlet—a point nearly in the same latitude in which Sir James Ross thought he had found a magnetic pole. The Americans determined to be frozen into the pack ice, so as to be able to take advantage of its breaking up in the spring, to prosecute their expedition northward. The result was, that a few days after being frozen in, the ice broke loose from the shores and floated northward with the vessels. North of lat. $75^{\circ} 30'$ they saw the line of the western coast of Greenland, trending N. and W. a line of high cliffs, extending beyond the sight. On the left, the shores of Cornwallis' island were seen. They landed at different points, and found renewed traces of the march of parties of Sir John Franklin's men. While in this latitude, the south wind, which had hitherto carried them northward, ceased, and they were slowly drifted with the ice, for nearly nine months, down Wellington channel, and were at last released from the ice in a latitude easily reached by navigators at almost all seasons; proving a southerly current running from N. lat. $75^{\circ} 30'$ into the Atlantic, at the rate of at least four miles per day. Judge K. concluded by giving reasons for believing that Sir John Franklin had reached this open sea, south of the west coast of Greenland, and that at least some of his party may still survive.

The Society then proceeded to ballot for candidates for membership.

The Committee of Finance reported that the accounts of the late Treasurer had been examined and found correct: and that the newly elected Treasurer had given a bond, with sureties, for the faithful performance of the duties of his office.

All other business having been transacted, the ballot boxes were opened by the presiding officer, and the following named gentlemen declared to be duly elected members of the Society:—

HON. GEORGE SHARSWOOD, of Philadelphia.

JOHN LECONTE, of New York.

EDWARD HALLOWELL, M.D. of Philadelphia.

ELISHA K. KANE, M.D. of Philadelphia.

JAMES DUNDAS, of Philadelphia.

ISAAC R. DAVIS, of Philadelphia.

Stated Meeting, November 7.

Present, twenty-five members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From Professor Zantedeschi, dated Padua, 10th September, 1851; from John Leconte, dated New York, October 26, 1851; and from Edward Hallowell, dated Philadelphia, November 5, 1851; severally acknowledging the receipt of notice of their election as members of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Archives du Muséum d'Histoire Naturelle: Publiées par les Professeurs de cet Etablissement. Tome IV.; Livraisons, 1, 2, 3, 4: Tome V.; Livraisons, 1, 2, 3. Paris. 4to.—*From the Museum of Natural History, Paris.*

Muséum d'Histoire Naturelle de Paris. Catalogue de la Collection Entomologique: classe d'Insectes, Ordre des Coléoptères: première et deuxième livraisons. Catalogue Methodique de la Collection des Reptiles: première livraison. Paris, 1850-51. 8vo.—*From the same.*

Journal Asiatique. Quatrième Serie. Tome XVII. Paris, 1851. 8vo.—*From the Asiatic Society of Paris.*

Quarterly Journal of the Chemical Society. Vol. IV. No. 3. Oct. 1, 1851. London. 8vo.—*From the Society.*

Memoirs of the Royal Astronomical Society. Vol. XIX; being the quarto half volume for the session 1849-50. London, 1851. 4to.—*From the Society.*

Monthly Notices of the Royal Astronomical Society. Vol. X. Nov. 1849, to June, 1850. London. 8vo.—*From the same.*

Contributions to Astronomy and Geodesy; forming part of Vol. XX. of the Memoirs of the Royal Astronomical Society. By Thomas Maclear, Esq., Her Majesty's Astronomer at the Cape of Good Hope. London, 1851. 4to.—*From the same.*

Dell' Origine e Progresso della Fisica Teorica Sperimentale, nell' Archiginnasio Padovano: Prelezione del P. Professore di Fisica, Ab. Francesco Caval. Zantedeschi, membro del Reale Istituto

Veneto: letta nel Novembre, 1850. Venezia, 1851. 8vo.—
From the Author.

Giornale Fisico-chimico Italiano, ossia raccolta di scritti riguardanti la Fisica e la Chimica degl' Italiani. Puntata 1, 2, 3, 4. Venezia, 1851. 8vo.—*From Prof. Zantedeschi.*

The American Journal of Science and Arts. Second Series. Vol. XII. No. 36. Nov. 1851. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*

Report of the Commissioner of Patents, for the Year 1850. Part I. Arts and Manufactures. Washington, 1851. 8vo.—*From the Hon. Thomas Ewbank, Commissioner of Patents.*

The Dispensatory of the United States of America. By George B. Wood, M.D. Professor of the Theory and Practice of Medicine in the University of Pennsylvania, &c. &c. and Franklin Bache, M.D. Professor of Chemistry in the Jefferson Medical College of Philadelphia, &c. &c. Ninth Edition, carefully revised. Philadelphia, 1851. 8vo.—*From Dr. Franklin Bache.*

A History of the Massachusetts General Hospital. By N. J. Bowditch. Boston, 1851. 8vo.—*From the Author.*

Historia de Mejico, desde los primeros movimientos que prepararon su independencia en el año 1808, hasta la epoca presente. Por D. Lucas Alaman. Parte primera. Tomo IV. Mexico, 1851. 8vo.—*From the Author.*

The Medical News and Library. Vol. IX. No. 107. November, 1851. Philadelphia. 8vo.—*From Blanchard & Lea.*

Mr. Lea announced the death of Richard C. Taylor, a member of this Society, who died on the 26th ultimo, at the age of sixty-two. Mr. Lea gave an account of the life of the deceased, and the services which he had rendered to literature and to geological science.

It is rarely we have to announce a greater loss to science than it has sustained in the death of Richard Cowling Taylor, the eminent Geologist and Mining Engineer, which occurred at his residence in this city, on the 26th ult. His sudden decease, in the midst of active professional employment, and scientific pursuits of the highest order, has deprived this branch of knowledge in our country of one of its brightest ornaments and most useful labourers. Early educated, in a thorough manner, in his profession, in his own country, England, he soon acquired a knowledge of Geology and Mine Engineering, which brought him in connexion with the best science of the country, and

he was made an associate of the Geological Society of London, and other learned institutions of Great Britain. Immediately on his quitting his studies he was engaged in the practice of his profession, and he lent his services to the Ordnance Survey of Great Britain, the British Iron Company, &c. &c. While engaged in South Wales he made a report to this company, which drew the general attention of men of science to him, and particularly in regard to the execution of a model of part of the coal and iron district of South Wales. This model caused the Gold Isis Medal to be conferred upon him by the "Society of Arts" of London. It was the first model of the kind which had been executed, and it drew so much attention that Sir Francis Chantry had a copy made of it for Dr. Buckland.

In 1831, Mr. Taylor came to this country, and resided some years in Philadelphia, in this State. Shortly after, he was engaged in a survey of the coal field of Tioga county, and, subsequently, in the western district of the southern coal field of Pennsylvania, in Dauphin county. Of the latter he made a model, which, in point of scientific exactness and artistical excellence, has not, it is believed, ever been surpassed, if it has ever been equalled, embracing, as it does, the exact geology and topography of 45 miles by 15, the length being 14 feet. From the time of Mr. Taylor's arrival in this country until his death, he was actively employed either in the field, under professional engagements, or at his table, in perfecting his observations, and giving them in the form of most valuable contributions to the science of geology, in the journals and transactions of our learned societies. His engagements in most of the mineral districts of the United States, and in many cases beyond the limits of the States, produced professional reports of such a character as to remain models worthy of all praise and imitation. They were universally marked by a character so thorough and so candid as induced the most unbounded confidence in all who sought his professional assistance.

Mr. Taylor's first literary production was a learned work, entitled "*Index Monasticus*," in 1 vol. folio, which met with so much favour as to induce him to undertake another learned work, called "A General Index to Dugdale's *Monasticon Anglicanum*," in 1 vol. folio, with maps and plates. In the transactions of the Geological Society of London, and in the Magazine of Natural History, he published various geological papers, viz: on the Crag Strata of Bramerton; on the Chalk Strata of Norfolk and Suffolk; on the Progress of Geology; Introduction to Geology; Illustrations of Antediluvian Zoology and Botany. In the American Scientific Journals—Geological posi-

tion of certain beds, which contain numerous Fossil Marine Plants in Mifflin county, Pa ; on the Transition and Secondary Coal Formations in Pennsylvania ; Existence of an Ancient Lake in Mifflin county ; Coal Field of Blossburg ; Bituminous Coal field near Richmond, Va. ; Section (250 miles) in Virginia and Maryland ; The Copper Region, Gibara in Cuba ; Fossil Plants in Dauphin county Coal Field ; Notes on Indian mounds and Earthworks ; and other minor papers.

Mr. Taylor's great work, however, is his "*Statistics of Coal*," published in this city, in 1 vol. 8vo. pp. 754, in 1848. This was the result of the labours of a long life—facts stored up with the most unremitting care, and digested with an order worthy of all praise. The reviewers of England and this country gave it their highest approval and unstinted commendation. The Edinburgh Review considered his "inquiries to have been extended with marvellous industry and perseverance to every part of the globe." The Journal of the Franklin Institute stated that it could scarcely be thought possible that one individual could have collected such a mass of facts. Hunt's Merchant's Magazine stated in its notice, that "on no kindred subject, has a more complete and perfect treatise ever been produced."

The services of Mr. Taylor in economic geology and theoretic geology naturally attracted the attention of learned bodies to him, and accordingly we find him a member of the Geological Society of London, the American Philosophical Society, the Academy of Natural Sciences, the Geological Society of Pennsylvania, the Franklin Institute, &c. of this city, and the American Association for the Advancement of Science. In all these Societies his loss will be deeply deplored, and his more intimate friends feel that his place cannot be easily filled, when ripe judgment, mature experience, and accurate knowledge are required in the scope of those sciences which he cultivated.

Dr. F. Bache announced the death of Don Manuel Godoy, a member of this Society, who died at Paris, on the 7th ultimo, in the 86th year of his age.

New nominations, Nos. 263, 264 and 265, were read.

Stated Meeting, November 21.

Present, twenty members.

JUDGE KANE, Vice-President, in the Chair.

Drs. Edward Hallowell and Elisha K. Kane, newly elected members, were presented to the presiding officer, and took their seats.

Letters were read:—

From Lieut. Col. Edward Sabine, dated Woolwich, October 20, 1851, announcing a donation to the Society:—

From W. H. Prescott, dated Boston, November 15, 1851, presenting, on the part of the author, the *third* volume of Don Lucas Alaman's History of Mexico, which volume had not been previously received: and—

From Isaac R. Davis, dated Philadelphia, November 21, 1851, acknowledging the receipt of notice of his election as a member of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Historia de Mejico, desde los primeros movimientos que prepararon su independencia en el año 1808, hasta la epoca presente. Por Don Lucas Alaman. Tomo III. Mexico, 1850. 8vo.—*From W. H. Prescott, for Don Lucas Alaman.*

Meteorological Register for twelve years, from 1831 to 1842, inclusive: compiled from observations made by Officers of the Medical Department of the Army, at the Military Posts of the United States. Prepared under the direction of Brevet Brig. Gen. Thos. Lawson, Surgeon General U. S. Army. Washington, 1851. 8vo.—*From General Lawson.*

Journal of the Franklin Institute. Third Series. Vol. XXII. No. 5. November, 1851. Philadelphia. 8vo.—*From the Institute.*

The African Repository. Vol. XXVII. No. 11. November, 1850. Washington. 8vo.—*From the American Colonization Society.*

Progress of Medicine during the first half of the Nineteenth Century: being an Introductory Lecture to the Spring Session in the Philadelphia College of Medicine; delivered March 17, 1851. By

James Bryan, M.D. Professor of Institutes and Medical Jurisprudence. Philadelphia, 1851. 8vo.—*From the Author.*

A Historical Sketch of Surgery, from the Revival of Literature to the end of the Seventeenth Century: being an Introductory Lecture to a Course on Surgery in Geneva Medical College, N. Y. By James Bryan, M.D. Geneva, 1851.—*From the same.*

Letters on the Resources and Commerce of Philadelphia; from Job R. Tyson to William Peter, Her Britannic Majesty's Consul for Pennsylvania. With Mr. Peter's answer prefixed. Philadelphia, 1851. 8vo.—*From the Author.*

Moral Education. A Lecture delivered at New Bedford, Aug. 16, 1842, before the American Institute of Instruction. By George B. Emerson, President of the Institute. Boston, 1842. 8vo.—*From James J. Barclay, Esq.*

The Plough, the Loom and the Anvil. Vol. IV. No. 5. November, 1851. Philadelphia. 8vo.—*From F. G. Skinner, Editor.*

Dr. Boyé exhibited, for the inspection of the Society, a specimen of Iron Pyrites, containing some Copper Pyrites, and about $4\frac{1}{2}$ per cent. of *Nickel*, from the "Gap Mine," in Lancaster county, Pennsylvania. The mineral has a peculiar colour and lustre.

The proceedings of the Board of Officers and Council at their last meeting, were read.

Mr. Trego stated that there are certain instruments and articles of apparatus belonging to the Society, in the possession of individuals, of the lending of which there does not appear to have been any record made: Whereupon it was resolved, on motion of Mr. Fraley, that the Curators and Librarian be requested to prepare a catalogue of the apparatus belonging to the Society, and to reclaim such articles as may not now be in possession of the Society.

Mr. Peale, one of the Curators, informed the Society, that Mr. Jacob G. Morris had proposed to arrange the collection of coins and medals belonging to the Society, and had obtained the sanction of the Curators for that purpose.

Pending nominations, Nos. 263, 264 and 265, and new nominations, Nos. 266, 267 and 268, were read.

Stated Meeting, December 5.

Present, twenty-one members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Royal Academy of Sciences at Stockholm, dated 1st November, 1849, and 10th and 18th October, 1850, accompanying donations for the Library and Cabinet of the Society:—

From the Royal Institute of Sciences, Belles Lettres and Arts, of the Netherlands, dated Amsterdam, 2d Sept. 1851, announcing a donation to the Society's Library:—

From Edward John Tilt, M.D. of London, dated Oct. 30, 1851, accompanying a present to the Society of two medical works of which he is the author: and —

From the Academy of Natural Sciences, of Philadelphia, dated 10th October, 1851, acknowledging the receipt of the last published number of the Society's Proceedings.

The following donations were announced:—

FOR THE LIBRARY.

Kongl. Vetenskaps Akademiens Handlingar, för år 1847, och 1848.

I. II. Stockholm, 1849. 8vo.—*From the Royal Academy of Sciences at Stockholm.*

Öfversigt af Kongl. Vetenskaps Akademiens Förhandlingar: 7—10.

1848, 1849. Stockholm, 1850. 8vo.—*From the same.*

Årsberättelse om Technologiens Framsteg till Kongl. Vetenskaps Akademien, afgifven den 31 Mars, 1842, 1843, 1844—1846, af J. E. Pasch. Stockholm. 8vo.—*From the same.*

Årsberättelse om Botaniska Arbeten och Upptäckter för åren 1843, 1844, till Kongl. Vetenskaps Akademien, afgifna den 31 Mars, åren 1843, 1844, af Joh. Em. Wilkström. I. II. Stockholm, 1849. 8vo.—*From the same.*

Årsberättelse om Framstegen i Kemi, under år 1847, 1848, afgifven till Kongl. Vetenskaps Akademien, af L. F. Svanberg. Stockholm, 1849, 1850. 8vo.—*From the same.*

Sak-och Nam-Register öfver alla af Berzelius till Kongl. Vetenskaps

- Akademien afgifna Årsberättelser, (1821—1847). Utgifvet af A. Wiemer. Stockholm, 1850. 8vo.—*From the same.*
- Tal hållet vid Præsidiij nedläggande uti Kongl. Vetenskaps Akademien, den 11 April, 1849, af L. F. Svanberg. Stockholm, 1849. 8vo.—*From the same.*
- Verhandelingen der Eerste Klasse van het Koninklijk-Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten te Amsterdam. Derde Reeks. Vierde Deel. Amsterdam, 1851. 4to.—*From the Royal Netherlands Institute of Science, Belles Lettres and Arts.*
- Tijdschrift voor de Wis-en Natuurkundige Wetenschappen, uitgegeven door de Eerste Klasse van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten. Vierde Deel. Aflevering 1, 2, 3, 4. Amsterdam, 1851.—*From the same.*
- Proceedings of the New Jersey Historical Society. Vol. VI. No. 1. 1851. 8vo.—*From the Society.*
- Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. V. No. 11. September and October, 1851. 8vo.—*From the Academy.*
- A Memoir of Samuel George Morton, M.D., late President of the Academy of Natural Sciences of Philadelphia. By Charles D. Meigs, M.D. Read November 6, 1851, and published by direction of the Academy. Philadelphia, 1851. 8vo.—*From the same.*
- On the Diseases of Menstruation and Ovarian Inflammation, in connexion with Sterility, Pelvic Tumours, and Affections of the Womb. By Edward John Tilt, M.D., Physician to the Farringdon General Dispensary, &c. &c. London, 1850. 8vo.—*From the Author.*
- On the Preservation of the Health of Women at the Critical Periods of Life. By E. J. Tilt, M.D., Senior Physician to the Farringdon General Dispensary and Lying-in-Hospital, &c. &c. London, 1851. 8vo.—*From the same.*
- On the Genus Acostæa of D'Orbigny, a Fresh Water Lamellibranchia. By Isaac Lea. (Journal Acad. Nat. Sci. Philad., Nov. 1851). 4to.—*From the Author.*
- Obituary Notice of Richard C. Taylor. By Isaac Lea. (Proc. Acad. Nat. Sci. Philad. Vol. V. No. 11). 8vo.—*From the same.*
- Physical Education: the only Solid Foundation of Moral and Intellectual Culture and Development: An Address delivered before

the Linnean Association of Pennsylvania College, Gettysburg, Pennsylvania, at the Annual Commencement, Sept. 19, 1851. By Washington L. Atlee, M.D., Professor of Medical Chemistry in the Medical Department of Pennsylvania College. Gettysburg, 1851. 8vo.—*From Prof. M. L. Stoeber.*

The Life of William Penn; with Selections from his Correspondence and Autobiography. By Samuel M. Janney. Philadelphia, 1852. 8vo.—*From the Author.*

A New Method of Calculating the Cubic Contents of Excavations and Embankments, by the aid of Diagrams. By John C. Trautwine, Civil Engineer. Philadelphia, 1851.—*From the Author.*

FOR THE CABINET.

A Silver Medal, struck by the Royal Academy of Sciences at Stockholm, in memory of the Baron Berzelius; bearing his effigy, with devices and inscriptions.—*From the Royal Academy of Sciences, Stockholm.*

Mr. Justice called the attention of the members to a paragraph in Arthur Young's Travels in France, published in Dublin, in 1793, in which the author describes a mode of communicating ideas by means of electricity, through an alphabet indicated by the movements of the electrometer. According to Mr. Young, this was an invention of Mons. Lomond, of Paris, and practised by him in October, 1787.

The Treasurer presented his report, which was read and referred to the Committee on Finance.

The Committee of Publication presented their annual report.

No communication was offered for the Magellanic Premium.

Pending nominations, Nos. 263 to 268, inclusive, and new nomination, No. 269, were read.

Stated Meeting, December 19.

Present, nineteen members.

Dr. PATTERSON, President, in the Chair.

A letter was read:—

From Rear Admiral Don Juan José Martinez, dated Madrid, May 3, 1851, announcing a donation from him to the Library of the Society.

The following donations were announced:—

FOR THE LIBRARY.

Observations made at the Magnetical and Meteorological Observatory at the Cape of Good Hope. Printed by order of Her Majesty's Government, under the superintendence of Lieut. Col. Edward Sabine, of the Royal Artillery. Vol. I. Magnetical Observations, 1841 to 1846: with abstracts of the Observations from 1841 to 1850, inclusive. London, 1851. 4to.—*From the British Government, through Col. Sabine.*

Contributions to Astronomy and Geodesy; forming part of Vol. XX. of the Memoirs of the Royal Astronomical Society. By Thomas Maclear, Esq., F.R.A.S., Her Majesty's Astronomer at the Cape of Good Hope. Printed at the expense of the Board of Admiralty. London, 1851. 4to.—*From the same.*

Monthly Notices of the Royal Astronomical Society. Vol. XI. No. 9. Supplement. London. 8vo.—*From the Society.*

Annals of the Lyceum of Natural History of New York. Vol. V. No. 4 & 5. September, 1851. New York. 8vo.—*From the Lyceum.*

A Catalogue of the Library of Harvard University, in Cambridge, Massachusetts. 5 vols., including supplement of 1834. Cambridge, 1830, 1834. 8vo.—*From the President and Fellows of Harvard College, by T. W. Harris, the Librarian, through Dr. Elwyn.*

Proceedings of the Academy of Natural Sciences of Philadelphia, (not previously received). Vol. IV. Nos. 2, 4, 5, 6, 7, 9, 10, 11, 12, with Title page and Index. Vol. V. Nos. 1, 2, 3, 4, 6, 7, 8, 9, 10. Philadelphia. 8vo.—*From the Academy.*

First and Second Supplements to the Catalogue of Books belonging

- to the Library Company of Philadelphia. Philadelphia, 1844, 1849. 8vo.—*From the Library Company.*
- Diccionario Marino, Ingles-Español y Español-Ingles, para el uso del Colegio Naval. Por el Jefe de Escuadra de la Armada, Don Juan José Martinez de Espinosa y Tacon, Comandante General de la Artilleria y de Infanteria de Marina, &c. &c. Madrid, 1849. 2 vols. 8vo.—*From the Author.*
- Coleccion completa de Tablas, para los usos de la Navegacion y Astronomica Nautica. Por el Capitan de Navio que fué de la Armada, Don Juan José de Mendoza y Rios, de la Real Sociedad de Londres. Edicion Esterotipica, corregida y aumentada, dispuesta por el Gefe de Escuadra, Don Juan José Martinez de Espinosa y Tacon, de la Sociedad Filosofia Americana, Comandante General de Artilleria y de Infanteria de Marina, &c. &c. Primera tirada. Madrid, 1850. 4to.—*From Don Juan José de Martinez.*
- The African Repository. Vol. XXVII. No. 12. December, 1851. Washington. 8vo.—*From the American Colonization Society.*
- The Medical News and Library. Vol. IX. No. 108. December, 1851. Philadelphia. 8vo.—*From Blanchard & Lea.*
- The Plough, the Loom and the Anvil. Vol. IV. No. 6. December, 1851. Philadelphia. 8vo.—*From the Editor, F. G. Skinner, Esq.*
- A Collection of Pamphlets, 64 in number, containing Public Documents of the Cities of Boston and Roxbury: Reports of the New England and Perkins Institution for the Blind; of the Directors of the Western Rail Road; of Harvard College: Registration of Births, Marriages and Deaths in Massachussets, from May 1, 1848, to January 1, 1850: with sundry Pamphlets on Insanity and other Medical subjects.—*From Dr. Edward Jarvis.*

Dr. Dunglison announced the death of the Rev. Charles Gutzlaff, a member of this Society, who died at Canton, in China, on the 9th of August, 1851, in the forty-eighth year of his age.

Prof. A. D. Bache made an oral communication on the subject of the tides in the Gulf of Mexico.

The Committee of Finance reported that they had examined the accounts of the Treasurer, and found them correct. On the recommendation of this Committee, the following appropriations were made for the current fiscal year.

Proceedings,	-	-	-	-	-	\$100
Binding,	-	-	-	-	-	50
Journals,	-	-	-	-	-	100
General account,	-	-	-	-	-	1000
Hall,	-	-	-	-	-	50

\$1300

Pending nominations, Nos. 263 to 269, inclusive, and new nomination, No. 270, were read.

Stated Meeting, January 2, 1852.

Present, fifteen members.

Dr. PATTERSON, President, in the Chair.

The judges and clerks of the election held this day, reported the election of the following officers of the Society:—

President.

Robert M. Patterson.

Vice-Presidents.

Dr. Franklin Bache,
Alexander Dallas Bache,
Hon. John K. Kane.

Secretaries.

Dr. Robley Dunglison,
John F. Frazer,
Charles B. Trego,
E. Otis Kendall.

Members of the Council for Three Years.

Thomas Biddle,
Isaac Lea,
Hartman Kuhn,
Alfred L. Elwyn,

For one year, in place of W. Hembel, deceased.

Dr. Isaac Hays.

Curators.

Franklin Peale,
John C. Cresson,
M. Fisher Longstreth.

Treasurer.

Charles B. Trego.

A letter was read:—

From the Secretaries of the Literary and Philosophical Society of Manchester, dated Nov. 27, 1851, transmitting thanks for Nos. 45 and 46 of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Transactions of the Royal Society of Edinburgh. Vol. XX. Parts 1 and 2, with Vol. XIX. Part 2, containing the Results of the Makerstoun Magnetical and Meteorological Observations for 1845, 1846. Edinburgh. 4to.—*From the Society.*

Proceedings of the Royal Society of Edinburgh. Vol. II. No. 35 to Vol. III. No. 41. December, 1849, to March, 1851. Edinburgh. 8vo.—*From the same.*

Report to General Sir Thomas Makdougall Brisbane, Baronet, &c. &c. on the completion of the publication of the Observations made in his Observatory at Makerstoun. By John Allan Broun, late Director of the Observatory. Edinburgh, 1850. 4to.—*From the same.*

Proceedings of the Royal Irish Academy, for the Year 1850–51. Vol. V. Part 1. Dublin, 1851. 8vo.—*From the Academy.*

Journal of the Ethnological Society of London. Vol. I. 1848. Vol. II. 1850. London and Edinburgh. 8vo.—*From the Society.*

Remarks on the Nature, Objects and Evidences of Ethnological Science: An Address read at the Ethnological Society, at a Conversazione on Wednesday, June 4, 1851. By Richard Cull, Fellow and Honorary Secretary of the Ethnological Society. London. 8vo.—*From the same.*

Elementa di Fisica Generale e Sperimentale, ad uso delle Regie Scuole di Filosofia, di G. D. Botto, Professore di Fisica Generale e Sperimentale nella R. Università di Torino, &c. &c. Torino, 1850. 8vo.—*From the Author.*

Catechismo Agrológico, ossia Principii di Scienza applicata all' Agri-

cultura, del Cav. G. D. Botto, Prof. nella R. Università di Torino, 1846. 8vo.—*From the same.*

Monthly Notices of the Royal Astronomical Society. Vol. XI. pp. 233 to 248, with Title Page and Index. London, 1851. 8vo.—*From the Society.*

Proceedings of the Boston Society of Natural History. Nov. 1851. pp. 81 to 96. Boston. 8vo.—*From the Society.*

American Journal of Science and Arts. Second Series. No. 37. January, 1852. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*

Journal of the Franklin Institute. Third Series. Vol. XXII. No. 6. Dec. 1851. Philadelphia. 8vo.—*From the Institute.*

On the Progress of Recent Science: A Lecture Introductory to the Course of Practice of Medicine. By J. K. Mitchell, M.D. Professor in the Jefferson Medical College of Philadelphia: Delivered November 13, 1851. Philadelphia. 8vo.—*From the Author.*

Quarterly Journal of the Geological Society. Vol. VII. No. 28. Nov. 1851. London. 8vo.—*From the Society.*

Nautisches Jahrbuch, oder vollständige Ephemeriden und Tafeln für das Jahr, 1852, und 1853, &c. &c. Herausgegeben von Dr. C. Bremiker, Plankammer Inspector im Königl. Preuss. Ministerium, &c. 2 vols. Berlin, 1850. 8vo.—*From Dr. G. A. Jahn.*

General-Register der Bände I. bis XX. der Astronomischen Nachrichten. Ausgearbeitet von G. A. Jahn, Dr. Philos. Director der Astronomischen Gesellschaft zu Leipzig, &c. &c. Hamburg, 1851. 4to.—*From the same.*

Dr. Franklin Bache announced the death of the Hon. Joel R. Poinsett, a member of this Society, who died December 12, 1851, in the 73d year of his age.

On motion, it was resolved that Mr. Henry D. Gilpin be requested to prepare an obituary notice of Mr. Poinsett.

Pending nominations, Nos. 263 to 270, inclusive, were read.

Stated Meeting, January 16.

Present, twenty-five members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Etat Major of the Corps of Mining Engineers of Russia, dated St. Petersburg, July 7, 1851; and from the Royal Academy of Sciences at Stockholm, dated Stockholm, Sept. 20, 1851, both accompanying donations to this Society:—

From the Geographical Society of London, dated Oct. 28, 1851; and from the Society of Antiquaries, dated Somerset House, 24th Nov. 1851, acknowledging the receipt of No. 46, of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Annales de l'Observatoire Physique Central de Russie: Publiés par ordre de sa Majesté l'Empereur Nicolas I. sous les auspices de M. le Comte Wrontchenko, Ministre des Finances et Chef du Corps des Ingénieurs des Mines. Par A. T. Kupffer, Directeur de l'Observatoire Physique Central. Année, 1848. Nos. 1, 2, 3. St. Petersburg, 1851. 4to.—*From the Etat Major of the Corps of Mining Engineers of Russia.*

Compte Rendu Annuel, adressé à M. le Comte Wrontchenko, Ministre des Finances. Par le Directeur de l'Observatoire Physique Central, A. T. Kupffer. Année, 1850. St. Petersbourg, 1851. 4to.—*From the same.*

Kongl. Vetenskaps-Akademiens Handlingar för år 1849. Stockholm, 1851. 8vo.—*From the Royal Academy of Sciences, Stockholm.*

Ofversigt af Kongl. Vetenskaps-Akademiens Förhandlingar. Sjunde Årgången, 1850. Stockholm, 1851. 8vo.—*From the same.*

Årsberättelser om Botaniska Arbeten och Upptäckter för åren 1845, 1846, 1847 och 1848, till Kongl. Vetenskaps-Akademien afgifna den 31 Mars, åren 1846, 1847, 1848, 1849, af Joh. Em. Wikström. Förra Delen. Stockholm, 1850. 8vo.—*From the same.*

Årsberättelse om Framstegen i Insekternas, Myriapodernas och Arachnidernas Natural-historia, för 1847 och 1848, till Kongl. Vetenskaps-

- skaps-Akademien afgifven af C. H. Boheman. Stockholm, 1851. 8vo.—*From the same.*
- Årsberättelse om Technologiens Framsteg, till Kongl. Vetenskaps-Akademien, afgifven den 31 Mars, 1845, af G. E. Pasch. Stockholm, 1851. 8vo.—*From the same.*
- Berättelse om Framstegen i Fysik, under år 1849; afgifven till Kongl. Vetenskaps-Akademien af E. Edlund. Stockholm, 1851. 8vo.—*From the same.*
- Joh. Paul Thun's Neues Bücherverzeichniss; 1846, 7, 8. 12 vols. 8vo. Leipzig.—*From Dr. J. G. Flügel, U. S. Consul at Leipzig.*
- The African Repository. Vol. XXVIII. No. 1. January, 1852. Washington. 8vo.—*From the American Colonization Society.*
- Contributions to Conchology. No. 10. By Prof. C. B. Adams. Amherst College, Mass., Nov. 1851. 8vo.—*From the Author.*
- The American Journal of the Medical Sciences. No. XLV. New Series. January, 1852. Philadelphia. 8vo.—*From Dr. Isaac Hays, Editor.*
- The Medical News and Library. Vol. X. No. 109. January, 1852. Philadelphia. 8vo.—*From Blanchard & Lea.*

Dr. Franklin Bache announced the death of Professor Moses Stuart, of Andover, Massachusetts, a member of this Society, who died on the 4th of the present month, in the seventy-first year of his age.

Mr. Lea presented a Table of Meteorological Observations made at Napa-keang, Loo Choo Islands, in 1848, by Dr. Bettelheim, which was referred to a Committee, consisting of Prof. Frazer, Mr. R. A. Tilghman and Mr. Lea.

Prof. Frazer offered to the Society a Philological Paper, by Prof. Alexander, of Baltimore, entitled "*Glossarii Novi Anglicani Syngenesiaci Spicilegium,*" which was referred to a Committee, consisting of Mr. Trego, Dr. Demmé and Dr. Dunglison.

Mr. Lea read a paper by the late Richard C. Taylor, and remarked that it was the rough draft of a memoir intended for the Transactions of the Society, which Mr. Taylor was engaged in at the time of his death. As the article was not finished, nor the map referred to prepared, Mr. Lea proposed that the memoir in its unfinished state should be published in

the Proceedings, in precisely the state left by Mr. Taylor, except that the blank references to pages in the Transactions should be filled up. With the exception therefore of the references, the following is given from the manuscript as left by our deceased member.

On a Vien of Asphaltum at Hillsborough, in Albert County, Province of New Brunswick. By Richard C. Taylor.

On the 19th of August, 1836, I had the honour of communicating to the American Philosophical Society, a notice of certain veins of Asphaltum or Chapapote, in the Island of Cuba, together with some illustrative diagrams thereon. At that time, I believe no instance had been made known of the existence of true Asphaltum on the North American continent. Allusion has been slightly made to the occurrence of some soft variety of mineral pitch or petroleum in Texas, but no details have reached us.

It is only in recent times that a deposit of remarkably pure and brilliant asphalte has attracted attention in the Province of New Brunswick. Like the Chapapote of Cuba, the New Brunswick mineral has been commonly spoken of as a species of coal, and has been shipped and sold at the ports of the United States and Nova Scotia, under that denomination. Some material differences of opinion have been maintained, even among men of acknowledged scientific acquirements, and while some have asserted its identity with bituminous coal, others place the substance among the purest variety of asphalte. There are other circumstances, not directly essential to the object of the present communication, which await the decision of the legal tribunals of the provinces, but the principal fact which, in the first instance, was sought to be established, is the nature, character and properties of the mineral products found in the Hillsborough mine.

After a sufficient investigation of the mine, and of the geological circumstances under which it occurs, there appear to exist no grounds for denominating the mineral contents by any other name than Asphaltum.

The evidence from which this conclusion was formed, was detailed at some length in a printed document, originating at Halifax, N. S.*

* Supreme Court, Halifax, N. S. Abraham Gesner vs. Halifax Gas Light Company. Deposition of Richard C. Taylor, respecting the asphaltum mine at Hillsborough, in the County of Albert and Province of New Brunswick. Illustrated by a map and diagrams. Philadelphia, 1851.

On the present occasion we proceed to condense this description, seeing that the subject is replete with geological interest, and that it is apparently the first Asphaltum vein which has been described or even discovered on the North American continent.

The examination of the Hillsborough mine was made in conjunction with Professor James Robb, of Fredericton College, N. B., in May, 1851, and a joint report was made by us on that occasion.*

It was at once apparent that the mineral substance of the Hillsborough or Albert mine occurs at a very high angle, which varied from nearly perpendicular to within 10 to 20 degrees of verticality. Its position is in the midst of a formation which consists of highly bituminous calcareous or marley shale, in which several species of ganoid fossil fishes, of the genus *Palæoniscus*, abound. None of the usual varieties of coal vegetation were observed by us, but it was stated that a very few obscure traces had been noticed by others.

In the progress of the geological investigation, I was struck with the resemblance of this deposit to those of the Asphaltum or Chapapote in the Island of Cuba, described in Vol. VI. of the Transactions of this Society, and its general conformity to the configuration shown in the diagrams there given from admeasurements made on the spot.

The opposite sides or walls of the Hillsborough vein are very dissimilar at certain points, yet, at intervals, for short distances, they are parallel and conformable.

It is obvious that the two sides cannot be parallel, since the vein, like those near Havana, is in form of a wedge, whose thinnest edge is upwards, and enlarging from about a foot at the outcrop to 13 or 14 feet, at some 40 or 50 feet depth below the surface.

It has neither a true roof nor floor. It has no overlying nor underlying *fire clay*. It exhibits no coal plants, nor organic traces, as in coal seams. It possesses no conformable *lamination*, horizontally or longitudinally, as in coal and coal seams. Instead of this, the *divisional planes* are arranged *transversely*; i. e. at right angles to the sides of the vein, as we observed was the case in the Chapapote veins of Cuba.

The conclusion which we could not fail to arrive at from the consideration of these phenomena, was that the New Brunswick vein of Asphalte occupies a *line of dislocation*, an anticlinal axis in fact, which tilted off the bordering strata, in opposite directions to either side, for a considerable area; the amount of inclination being reduced

* Joint Geological Report.

or flattened in proportion to the increased distance from the central line of fracture.

It was ascertained, by instrumental observation, that this line of dislocation runs parallel with the Caledonia mountain range, which stretches for 80 miles, nearly in a S. W. direction, conformably to the northern coast of the Bay of Fundy. The Caledonia mountain range, it must be stated, is composed of trap, basalt, metamorphic slates, porphyry, sienite and other plutonic rocks.

An important feature in the Hillsborough vein must not be overlooked. It is the occasional tendency to throw off smaller branches, as in the Asphaltum veins of Cuba. One of the most remarkable instances is sketched, at Fig. 4, in the accompanying map; where the main vein, after ramifying and after receiving and giving off several small branches, reunites in one principal vein as before. The intermediate spaces between these branches are occupied by slates and worthless rock, which disturb the arrangements of the miners, and are called by them "*horses*."

Mr. Fraley referred to a prevalent opinion in the coal region of Schuylkill county, that the veins of white ash coal underlie the red ash veins, which has been confirmed by some recent explorations at St. Clair, in that county.

The Society next proceeded to the election of Librarian, and Mr. Trego was re-elected.

The following standing committees were elected.

Of Finance—Mr. Lea (Chairman), Mr. Wagner, Mr. Fraley.

On the Hall—Judge Kane (Chairman), Mr. F. Peale, Mr. Justice.

On the Library—Dr. Hays (Chairman), Mr. Campbell, Mr. Ord.

Of Publication—Mr. Lea (Chairman), Dr. Hays, Mr. J. Francis Fisher.

A list of the surviving members of the Society was read, from which it appears that the number on the first of January, 1852, was 361, of whom are resident in the United States 260, and in foreign countries 101.

The Society then proceeded to ballot for candidates for membership.

All the other business of the meeting having been disposed

of, the ballot boxes were opened, and the following named candidates were declared by the presiding officer to have been duly elected members of the Society:—

FRANCIS GURNEY SMITH, M.D., of Philadelphia.

JOHN FORSYTH MEIGS, M.D., of Philadelphia.

Hon. EDWARD KING, of Philadelphia.

Dr. GEORGE N. ECKERT, of Philadelphia.

Lieut. CHARLES HENRY DAVIS, U. S. Navy.

Prof. J. W. BAILEY, U. S. Mil. Acad. West Point.

MICHEL CHEVALIER, of Paris.

ALFRED STILLE, M.D., of Philadelphia.

P R O C E E D I N G S
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V. FEBRUARY—DECEMBER, 1852. No. 48.

Stated Meeting, February 6.

Present, seventeen members.

Dr. PATTERSON, President, in the Chair.

Francis G. Smith, jr., M. D., a newly elected member, was presented, and took his seat.

Letters were read:—

From Francis G. Smith, jr., dated January 17; from J. Forsyth Meigs, dated Jan. 19; from George W. Eckert, dated Jan. 19; from Edward King, dated Jan. 19; from Charles Henry Davis, dated Washington, Jan. 27; from J. W. Bailey, dated West Point, Jan. 27; and from Alfred Stille, dated Philadelphia, Jan. 29, 1852,—severally acknowledging the receipt of notice of their election as members of the Society:—

From the Zoological Society of London, dated 11 Hanover Square, returning thanks for the Proceedings of this Society, Nos. 43 and 44:—

From the Secretary of l'Ecole des Mines, dated Paris, Sept. 20, 1851, announcing a donation to the Library of the Society:—

From Lieut. M. F. Maury, dated Observatory, Washington, 1852, inviting the co-operation of the Society in a general system of meteorological observations: and—

From Peter A. Browne, Esq., dated Philadelphia, Jan. 30, 1852, offering to exhibit to the Society a collection of fine wools, grown in Saxony, and presented to him by the king of that country.

The following donations were announced :—

FOR THE LIBRARY.

- Bulletin de la Société de Géographie. Quatrième Série. Tome I. Paris. 1851. 8vo.—*From the Geographical Society of Paris.*
- Annales des Mines. Quatrième Série. Tome XIX. 2 & 3 livr. de 1851. Paris. 8vo.—*From the Ecole des Mines.*
- Minéralogie : Extraits par M. Delesse, du Tome XIX. des Annales des Mines. 1851.—*From M. Delesse.*
- Transactions of the Zoological Society of London. Vol. IV. Part 1. London. 1850. 4to.—*From the Society.*
- Proceedings of the Zoological Society of London. Nos. 206 to 213 inclusive. London. 1850. 8vo.—*From the same.*
- An Inquiry into M. Antoine d'Abbadie's Journey to Kaffa, in the years 1843 and 1844, to discover the Source of the Nile. London. 1851. 8vo:—and
- A Summary of Recent Nilotic Discovery. By Charles T. Beke, Ph. D. F. S. A., &c. (Read to Brit. Assoc. at Ipswich, July 4, 1851.) 8vo.—*From the Author.*
- Proceedings of the Boston Society of Natural History; Dec. 1851. pp. 97 to 128. Boston. 8vo.—*From the Society.*
- Collections of the Historical Society of Pennsylvania. Vol. I. No. 1. May, 1851. No. 2, Nov. 1851. Philadelphia. 8vo.—*From the Society.*
- Journal of the Franklin Institute. 3d Series. Vol. XXIII. No. 1. Jan. 1852. Philadelphia. 8vo.—*From the Institute.*
- The African Repository. Vol. XXVIII. No. 2. February, 1852. Washington. 8vo.—*From the Am. Colonization Society.*
- Journal of the Academy of Natural Sciences of Philadelphia. New Series. Vol. II. Part 2. Philada. Jan. 1852. 4to.—*From the Academy.*
- Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. V. No. 12. Philada. Dec. 1851. 8vo.—*From the same.*
- Report of Gen. J. G. Totten, Chief Engineer, on the subject of National Defences. Washington. 1851. 8vo.—*From the Author.*
- Correspondence in relation to a Universal System of Meteorological Observations, for the Sea as well as for the Land. Washington. 1851. 8vo.—*From Lieut. M. F. Maury.*
- The Plough, the Loom and the Anvil. Vol. IV. No. 7. Jan. 1852. N. York and Philada. 8vo.—*From the Editor.*

The Medical News and Library. Vol. X. No. 110. February, 1852. Philada. 8vo.—*From Blanchard & Lea.*

Twenty-fourth Annual Report of Managers of the House of Refuge. Philada. 1852. 8vo.—*From James J. Barclay, Esq.*

The Committee to which was referred the Meteorological observations made at Napa-Keang, Loo Choo, by Dr. Bettelheim, made report, recommending the publication of the paper in the Transactions of the Society, which was accordingly ordered.

Mr. Trego announced the decease of Harmar Denny, Esq., of Pittsburg, a member of this Society, who died on the 29th of January last, in the 58th year of his age.

On motion of Prof. Frazer, the communication from Lieut. Maury was referred to a Committee, consisting of Prof. Frazer, Mr. Cresson and Mr. Justice.

On motion of Prof. Frazer, the Secretary was directed to transmit to P. A. Browne, Esq., the thanks of the Society for his offer to exhibit the specimens of fine Saxony wools sent to him by the king of Saxony,—and to inform Mr. Browne that the Society will be happy if he will exhibit them at their rooms on Friday next, at 4 o'clock, P. M.

There being in the Cabinet of the Society, a collection of coins and medals, deposited 21st June, 1816, by Mr. David Parish, since deceased, the Secretary was directed to write to Mr. George Parish, of Ogdensburg, N. Y., inquiring of him whether there is any legal representative of the late Mr. David Parish.

New nominations, Nos. 271 and 272 were read.

Stated Meeting, February 20.

Present, thirteen members.

Dr. PATTERSON, President, in the Chair.

Judge King, a member recently elected, was presented and took his seat.

Letters were read:—

From the Royal Bavarian Academy of Sciences, dated Munich, 1st February, 1850, and 25th June, 1851, acknowledging the receipt of Vol. X. Part 1, of the Transactions, and Nos. 36—44 of the Proceedings of this Society;—and also announcing a donation from the Academy for the Society's Library.

The following donations were announced:—

FOR THE LIBRARY.

Abhandlungen der Mathematisch—Physikalischen Classe der Königl. Bayerischen Akademie der Wissenschaften. Band V. Abth. 3. Band VI. Abth. 1. München, 1850, 1851. 4to.—

From the Royal Bavarian Academy of Sciences.

Bulletin der Königl. Akademie der Wissenschaften. 1849, 1850. München. 4to.—*From the same.*

Gelehrte Anzeigen: Herausgegeben von Mitgliedern der Königl. Bayerischen Akademie der Wissenschaften. Vols. 28, 29, 30, 31. 1849, 1850. München. 4to.—*From the same.*

Almanach der Königl. Bayer. Akad. der Wissenschaften, für das Jahr 1849. München. 8vo.—*From the same.*

Annalen der Königl. Sternwarte bei München. Bande II. III. IV. München, 1849, 1850. 8vo.—*From the same.*

Schilderung der Naturverhältnisse in Süd Abyssinien. Fest Rede, &c. Von Dr. J. H. Roth. München, 1851. 4to.—*From the same.*

Ueber den Antheil der Pharmacie an der Entwicklung der Chemie. Fest Rede, &c. Von Dr. Ludwig Andreas Buchner, jr. München. 1849. 8vo.—*From the same.*

Monthly Notices of the Royal Astronomical Society. Vol. XII. No. 1. Nov. 1851. London. 8vo.—*From the Society.*

Quarterly Journal of the Chemical Society. Vol. IV. No. 16. Jan. 1852. London. 8vo.—*From the Society.*

Memoirs of the Literary and Philosophical Society of Manchester. Second Series. Vol. IX. London. 1851. 8vo.—*From the Society.*

Mémoires de l'Académie Impériale des Sciences de St. Petersburg. VI. Série. Sciences Mathématiques, Physiques et Naturelles. Tome VI. Première Partie. Sciences Mathématiques et Physiques.

Tome IV. Livraisons 3 and 4. St. Petersburg, 1850. 4to.—
From the Academy.

Mémoires présentés à l'Académie Impériale des Sciences de St. Petersburg. Par Divers Savants, et lus dans ses assemblées. Tome VI. Livraisons 5 and 6. St. Petersburg, 1851. 4to.—*From the same.*

Smithsonian Contributions to Knowledge. Contributions to the Natural History of the Fresh water Fishes of North America. By Charles Girard. I. A. Monograph of the Cottoids. Washington, 1851.—*From the Smithsonian Institution.*

Fifth Annual Report of the Board of Regents of the Smithsonian Institution to the Senate and House of Representatives, showing the Operations, Expenditures and Condition of the Institution during the year 1850. Washington, 1851. 8vo.—*From Hon. James Cooper, U. S. Senate.*

The Plough, the Loom and the Anvil. Vol. IV. No. 8. Feb. 1852. N. Y. and Philada. 8vo.—*From J. S. Skinner, Esq.*

The Committee, consisting of Mr. Trègo, Dr. Demmé and Dr. Dunglison, to which was referred the Philological Paper, by Professor Alexander, of Baltimore, made their report and asked to be discharged from a further consideration of the subject,—which was agreed to.

Mr. Lea read a note from Dr. Burt, who presented the report of meteorological observations made at the Loo Choo islands, which was recommended for publication at the last meeting,—and asked to have the note, or a part of it, appended to the report,—which was agreed to.

Professor Frazer drew the attention of the Society to a remarkable display of aurora borealis, observed last night, and described the characters which it presented: its chief peculiarity consisting in the immense and magnificent pulsations or gushings of light, which he had never seen in any other case of the aurora.

The phenomena, as witnessed by them, were also described by Mr. Lea, Dr. Coates and Dr. Hays.

The minutes of the Board of Officers and Council at their last meeting were read.

Pending nominations, Nos. 271 and 272,—and new nominations, Nos. 273 to 279, were read.

On motion of Mr. Trego, a Committee was appointed to examine further, and report upon the specimens of fine Saxony and other wools submitted to the inspection of the Society on Friday last, by P. A. Browne, Esq. The Committee consists of Mr. Trego, Mr. Justice and Dr. Elwyn.

Stated Meeting, March 5.

Present, nineteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Linnean Society, dated Soho square, London, Jan. 22, 1852, returning thanks for Vol. V. No. 46, of the Proceedings of the Society:—and

From Townsend Ward, Librarian of the Historical Society of Pennsylvania, dated Philadelphia, March 4, 1852, requesting permission, on behalf of that Society, to have taken a copy of the portrait of the late P. S. Duponceau, belonging to the American Philosophical Society.

The following donations were announced:—

FOR THE LIBRARY.

Monthly Notices of the Royal Astronomical Society, Vol. XII. No. 2. Dec. 12, 1851. London. 8vo.—*From the Society.*

A Notice of the Origin, Progress and Present Condition of the Academy of Natural Sciences of Philadelphia. By W. S. W. Ruschenberger, M. D. (Read before the Academy, Feb. 10, 1852). Philada. 1852. 8vo.—*From the Academy.*

An Address on the Occasion of the Centennial Celebration of the Founding of the Pennsylvania Hospital, delivered June 10, 1851, by George B. Wood, M. D. Philada. 1851. 8vo.—*From the Managers of the Pennsa. Hospital.*

Another Copy of the same.—*From Dr. G. B. Wood.*

Report of the Pennsylvania Hospital for the Insane, for the year 1851. By Thomas S. Kirkbride, M. D., Physician to the Institution. Philada. 1852.—*From the Author.*

The Annual Report of the Board of Directors of the Pennsylvania Institution for the Deaf and Dumb, for 1851. Philada. 8vo.—
From the Directors.

The American Journal of Science and Arts. Second Series. No. 38. March, 1852.—*From Profs. Silliman & Dana, Editors.*

The Medical Examiner and Record of Medical Science. Edited by Francis Gurney Smith, M. D. and John B. Biddle, M. D. New Series. Vol. VIII. Nos. 1, 2, 3. Jan. Feb. and March, 1852. Philada. 8vo.—*From Dr. F. G. Smith.*

The Medical News and Library. Vol. X. No. 111. March, 1852. Philada. 8vo.—*From Blanchard & Lea.*

A Treatise on the Anatomy, Physiology and Diseases of the Human Ear. By James Bryan, M. D., Professor of Surgery in Geneva Medical College, &c. &c. Philada. 1851. 8vo.—*From the Author.*

An announcement was made of the death of Dr. John Griscom, of Burlington, N. J., a member of this Society, who died there on the 26th ultimo, aged 77 years.

Mr. Lea read the three following entitled papers on fluviatile and terrestrial molluscs, chiefly from the fresh waters of the United States, viz:—

1.—“*Descriptions of New Species of the Family Unionidæ.*”—
By Isaac Lea.

In this paper there are 44 species of *Uniones*, and 12 of *Anodonta*, characterised (with remarks upon each) under the following names.

Unio affinis.	Unio Henleyianus.
„ Barrattii.	„ irreptus.
„ buxeus.	„ Ingallsianus.
„ Clarkianus.	„ Keinerianus.
„ concavus.	„ Kleinianus.
„ Cuvierianus.	„ Lamarckianus.
„ decoratus.	„ Lazarus.
„ Floridensis.	„ luridus.
„ Forbesianus.	„ merus.
„ fraternus.	„ Moussonianus.
„ Gibbesianus.	„ nigellus.
„ hebes.	„ nigerrimus.

Unio nigrinus.	Unio rufusculus.
„ nux.	„ Rumphianus.
„ Oregonensis.	„ sagittaformis.
„ perstriatus.	„ satur.
„ placitus.	„ sordidus.
„ Powellii.	„ Stewardsonii.
„ Prevostianus.	„ succissus.
„ proximus.	„ Troschelianus.
„ pygmæus.	„ Tuomeyi.
„ Reevesianus.	„ Whiteianus.

Anodonta Arkansensis.	Anodonta Schröteriana.
„ Californiensis.	„ Shaefferiana.
„ denigrata.	„ tortilis.
„ Linnæana.	„ Troutwiniana.
„ oblita.	„ virens.
„ opaca.	„ Wheatleyi.

2.—“*Description of a New Genus (Basistoma) of the Family Melaniana, together with some New Species of American Melanina.*”—By Isaac Lea.

In this paper the genus *Basistoma* is thus characterised :

B. Testâ conica. Apertura ovata, basi abscissa. Labrum acutum. Columella lævi. Operculum —.

There are described in this paper one species of *Basistoma*, and eleven of *Melania*, viz :

Basistoma Edwardsii.	Melania oppugnata.
Melania Brumbyi.	„ pinguis.
„ Clarkii.	„ perstriata.
„ furva.	„ Sellersiana.
„ gibbosa.	„ sculptilis.
„ oblita.	„ Saffordii.

3.—“*Description of a New Species of Helix, from California, and a new characteristic form of certain American Colima-cea.*”—By Isaac Lea.

In this paper the diagnosis of the *Helix Lecontii* is given, and the accessory column described, which the author had observed in certain species, and to which he has supplied the name of *Fulcrum*, being a kind of buttress. He described it as being placed, or soldered, as it

were, against the wall of the ordinary column, about a fifth to a third of a revolution of the whorl from the aperture. This fulcrum adds much to the main strength of the column, and the whole stability of the structure. It was found by him to exist in the following species :

Carocolla spinosa. Lea.	Helix leporina. Gould.
„ Edgariana. Lea.	„ Lecontii. Lea.
Helix hirsuta. Say.	Polygyra Troostiana. Lea.
„ monodon. Racket.	„ Dorfuilliana. Lea.
„ Leai. Ward.	

The above-mentioned papers, by Mr. Lea, were referred to a Committee, consisting of Dr. Hays, Dr. Ruschenberger and Dr. Leidy.

On motion of Dr. Dunglison, permission was granted to the Historical Society of Pennsylvania, to have a copy of the portrait of Mr. Duponceau taken, under the direction of the Librarian.

Mr. Trego, the Reporter, laid upon the table No. 47 of the Proceedings of the Society, just published.

Pending nominations, Nos. 271 to 279, inclusive, were read.

Stated Meeting, March 19.

Present, fifteen members.

Dr. PATTERSON, President, in the Chair.

Dr. J. Forsyth Meigs, a recently elected member, was introduced to the President, and took his seat.

Letters were read:—

From the Royal Asiatic Society, dated London, 15th November, 1851, returning thanks for No. 46 of the Proceedings of this Society:—

From the New York Historical Society, dated New York, March, 1852, acknowledging the receipt of No. 47 of the Proceedings: and—

From the New Jersey Historical Society, dated Newark,

March 12, 1852, announcing the transmission of a donation for the library of this Society.

The following donations were announced:—

FOR THE LIBRARY.

- Journal of the Royal Asiatic Society. Vol. XII. Part 1, and Vol. XIV. Part 1. London, 1851. 8vo.—*From the Society.*
- Monthly Notices of the Royal Astronomical Society. Vol. XII. No. 3. Jan. 9, 1852. London. 8vo.—*From the Society.*
- Proceedings of the Boston Society of Natural History. Feb. 1852. Boston. 8vo.—*From the Society.*
- Collections of the New Jersey Historical Society. Vol. IV. Newark. 8vo.—*From the Society.*
- Journal of the Franklin Institute. 3d Series. Vol. XXIII. No. 3. March, 1852. Philada. 8vo.—*From the Institute.*
- Icones Piscium, or Plates of Rare Fishes. By John Richardson, M. D., F. R. S., &c. &c. London, 1843. 4to.—*From the Author.*
- A Catalogue of the Mammalia in the Museum of the East India Company. Printed by order of the Court of Directors. London, 1851. 8vo.—*From Dr. Thomas Horsfield.*
- Description of a New Genus of the Family Melaniana, and of many New Species of the Genus Melania, chiefly collected by Hugh Cuming, Esq., during his Zoological Voyage in the East, and now first described. By Isaac Lea and Henry C. Lea, Philadelphia. Also, Descriptions of five New Species of Anodontæ, collected by Hugh Cuming, Esq., in the East Indies. By Isaac Lea. London, 1851. 8vo.—*From the Authors.*
- The Plough, the Loom and the Anvil. Vol. IV. No. 9. March, 1852. N. Y. and Philada. 8vo.—*From the Editors.*

The Committee (Drs. Hays, Ruschenberger and Leidy), to which were referred the communications presented by Mr. Lea, at the last meeting, made report, recommending the publication of the same in the Transactions of the Society; which was agreed to, and the Committee discharged.

Pending nominations, Nos. 271 to 279, inclusive, and new nominations, Nos. 280, 281, and 282 were read.

Mr. Lea, from the Committee on Publication, reported the reception, recently, of an increased number of papers referred

to them for publication, and asked for an appropriation of *three hundred dollars*, for publication purposes, which was granted.

Stated Meeting, April 2.

Present, twenty-one members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Imperial Society of Naturalists of Moscow, dated 1—15 Sept. 1851; and from Wilhelm Braumüller, on behalf of the Imperial Academy of Sciences of Vienna, dated Vienna, 24th October, 1851, announcing the transmission of donations for the Library of the Society:—

From the Royal Society of London, dated Somerset House, Feb. 15, 1852, returning thanks for No. 46 of the Proceedings of this Society:—

From the Smithsonian Institution, dated Washington, March 24, 1852;—and from the Lyceum of Natural History, dated New York, March 24, 1852, acknowledging the receipt of the Proceedings, No. 47: and—

From Mr. George Parish, dated Ogdensburg, N. York, 24th March, 1852, in answer to a letter addressed to him by the Secretary of this Society, as directed at the meeting on 6th of February last.

The following donations were announced:—

FOR THE LIBRARY.

Philosophical Transactions of the Royal Society of London, for the year 1851. Part 2.

Proceedings of the Royal Society. Vol. V. No. 76. Vol. VI. Nos. 78 to 82.

List of Officers and Fellows of the Royal Society, 30th Nov. 1851. London. 4to.—*From the Society.*

Memoirs of the Royal Astronomical Society: Vol. XX., being the Quarto Half Volume for the Session of 1850–51. London. 4to.—*From the Society.*

- Monthly Notices of the Royal Astronomical Society, containing Papers, Abstracts of Papers, and Reports of Proceedings of the Society, from November, 1850, to June, 1851. Vol. XI. London. 8vo.—*From the same.*
- Journal of the Royal Geographical Society. Vol. XXI. 1851. London. 8vo.—*From the Society.*
- Astronomical and Magnetical and Meteorological Observations, made at the Royal Observatory, Greenwich, in the year 1850, under the direction of Geo. Biddell Airy, Esq., M. A., Astronomer Royal, &c. London, 1852. 4to.—*From the Royal Society.*
- Journal Asiatique. IV. Série. Tome XVIII. Paris, 1851. 8vo.—*From the Asiatic Society of Paris.*
- Annales des Mines. IV. Série. Tome XX. 4 livraison de 1851. Paris. 8vo.—*From the Engineers of l'Ecole des Mines.*
- Bulletin de la Société Impériale des Naturalistes de Moscou. Année 1851. No. 2. Moscou. 8vo.—*From the Society.*
- Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Phil. Hist. Classe. Jahrgang, 1851. VI. Band, 1, 2, 3, 4, 5 Heft. VII. Band, 1 Heft. Vienna. 8vo.—*From the Imperial Academy of Sciences, Vienna.*
- Archiv für Kunde Oesterreichischer Geschichts—Quellen. Jahrgang, 1850. II Band, 3, 4 Heft. 1851. I Band, 1, 2, 3, 4 Heft. Vienna. 8vo.—*From the same.*
- Fontes Rerum Austriacarum.—Oesterreichischer Geschichts—Quellen. Zweite Abtheilung. Diplomataria et Acta. IV. Band. Vienna, 1851. 8vo.—*From the same.*
- Notizenblatt. Beilage zum Archiv für Kunde österreichischer Geschichtsquellen, &c. Nos. 2—18.—*From the same.*
- Archæologische Analecten. Tafeln zu den Sitzungsberichten der Phil. Historische Classe der K. Acad. der Wissenschaften. Band VI. Heft. 1, 2, 3. 1850. Von Joseph Arneth. Vienna. Folio.—*From the same.*
- Die Alterthümer vom Hallstätter Salzberg und dessen umgebung. Von Friedrich Simony. Beilage zu den Sitzungsberichte der Philos. Histor. Classe der Kais. Acad. der Wissenschaften. Band IV. 1850. Vienna. Folio.—*From the same.*
- Uranus.—Synchronistisch geordnete 'Ephemeride aller Himmelsercheinungen des Jahres, 1849, 3 and 4 Quartal: 1850, erstes Quartal: 1851, zweites Semester: 1852, erstes semester. Herausgegeben von der Königl. Universitäts—Sternwarte zu Bres-

lau. Breslau. 8vo.—*From the Observatory at Breslau. Dr. J. G. Galle.*

Memorie della Reale Accademia delle Scienze di Torino. Serie Seconda. Tomo XI. Torino. 1851. 4to.—*From the Royal Academy of Sciences, Turin.*

Collections of the New York Historical Society. Second Series. Vol. II. Parts 1, 2. 1848, 1849. N. York. 8vo.—*From the Society.*

Report of the Secretary of War, communicating Reports in reference to the Inundations of the Mississippi river. Washington, Jan. 21, 1852. 8vo.—*From Hon. James Cooper.*

The American Journal of the Medical Sciences. Edited by Isaac Hays, M. D., &c. &c. No. XLVI. New Series. April, 1852. Philada. 8vo.—*From the Editor.*

The Medical News and Library. Vol. X. No. 112. April, 1852. Philada. 8vo.—*From Blanchard & Lea.*

Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. VI. No. 1. Philada. 8vo.—*From the Academy.*

The Committee appointed to examine the collection of wools presented by the King of Saxony to Peter A. Browne, Esq., presented their report, and were, on motion, discharged.

The Committee appointed at the meeting of the American Philosophical Society on the 20th of February last, to examine and report upon a collection of fine wools, presented by the king of Saxony to Peter A. Browne, Esq. of this city:—

Report, That they have attended to the duty imposed upon them by their appointment, and have received, from the kind politeness of Mr. Browne, much aid and information in relation to the subject of their inquiries. It is already known to the Society that the attention of this gentleman has been for some time directed to the minute and critical investigation of hair and wool, and that by means of assiduous microscopic and micrometric examination of these bodies he has been enabled to arrive at results, some of which appear to have been before unknown, and others, if known, very little noticed. Among these, he claims the following:—

That he was the first to point out the exact difference between *hair* and *wool*; and that he originated the division of sheep into two *species*, viz: the hairy and the woolly.

That by the application of the well known laws of hybridism, he

was the first to show that by crossing these two species, a self-supplying, permanent race of animals cannot be produced.

That he was the first to demonstrate, by actual measurement, that as fine wool can be grown in the United States, as in any country in the world.

From the results of his examination of a great number of specimens of wool from various parts of this country, he claims to have discovered that by drawing a diagonal line across the United States, corresponding somewhat with the line of tidewater, one may point out the respective districts where the woolly and the hairy sheep may, and may not, be bred with success.

The Committee do not propose to enter into a critical investigation of the theories of Mr. Browne, in relation to hair and wool; but from the laborious and earnest attention which he has given to the subject, they are inclined to regard his opinions and conclusions as being well worthy of considerate attention from the naturalist, the agriculturist, and the manufacturer of fabrics, in which wool forms an entire or a component part. If, as he asserts, the hairy and the woolly sheep are of different species, and that by their breeding together a degenerate race is produced, yielding a mixed fleece of hair and wool, and inferior in other respects; it is surely important that the fact should be known, and claim serious attention wherever sheep are bred, that the two varieties or races may be kept separate, as appears to be the case in the best sheep-folds in Saxony.

The collection of wools presented by the king of Saxony to Mr. Browne, consists of upwards of six hundred specimens, very neatly put up and labelled, embracing varieties from the principal districts in that country where the growing of wool is pursued as a branch of agricultural economy. These specimens exhibit the quality of wool taken from different parts of the same animal, as well as the varieties from the different breeds of sheep, and the various districts in which they are produced.

In relation to this collection of Saxony wools, and illustrative of the subject of sheep breeding and wool growing, Mr. Browne has favoured the Committee with a communication, which is appended to this report.

CHAS. B. TREGO,
A. L. ELWYN,
G. M. JUSTICE.

To Charles B. Trego, Alfred L. Elwyn, and George M. Justice, Esquires, Committee of the American Philosophical Society, appointed to examine the wools presented by His Majesty, the King of Saxony, to Peter A. Browne, of Philadelphia.

GENTLEMEN.—The Kingdom of Saxony is divided into four circuits, and fourteen counties, and the specimens I now exhibit to you, (numbering 628) represent the animals belonging to the principal stock sheep-folds in all the circuits, and in nearly all the counties; so that the cabinet may be considered as presenting a fair view of the existing state of sheep husbandry in Saxony.

Saxony is the smallest kingdom in Europe; containing, according to some writers, 5300, and according to others, 5640, square miles; having, for its area, about one-eighth that of Pennsylvania, and about one-eleventh that of Virginia, yet it is said to maintain 25,000,000 of sheep. They export annually an immense quantity of wool, and their own manufactories of that article employ 25,000 people.

To be perfectly satisfied that their sheep are of a very superior kind and that their wool is of the finest sort, you have only to examine these specimens, and compare them with the samples of fine wools brought by Mr. Fleishman, from most parts of Europe, at the instance of the Federal Government.

How did Saxony become possessed of this inestimable treasure?

According to the celebrated agriculturalist, M. Thaër, Germany, before the introduction of the merinos, had three varieties of sheep; neither of which were held in high estimation. In 1765, Augustus Frederick, then elector of Saxony, procured from Spain, 200 merinos, which he placed at Stolpgen, in the County of Hayn, and Circuit of Dresden. Against this innovation, popular prejudice at first ran high, but it gradually subsided with the progress of experiment; and, in 1777, so much had these sheep risen in public estimation, that the Elector determined to import 300 more. The agent sent to Spain could procure only 110, and of these many died during and soon after the transportation; but they, like those previously obtained, were selected from the best Spanish flocks; and then commenced the celebrated establishments of Rennersdorf, in the County and Circuit of Bautzen and of Lochmule, in the County of Niederforchheim, in the Circuit of Zwickau. It was upon this comparatively slender foundation that the art of sheep breeding was erected in Saxony. But it could never have attained its present great celebrity, but for the rigid

observance of the rule, in breeding, to keep these merinos entirely separate from all other sheep; their blood was, by this means, preserved pure; no mixture of them with either of the pre-existing races being allowed, on any pretence whatever. And to this day, the Saxon sheep breeder will not permit one to lose sight of this important fact, in proof of which, I call your attention to this clause in the letter of Mr. V. Kirchen, the farmer of the stock sheep-fold of the Duke of Parma, in the county of Dresden, called "Weistropp," which accompanies these 16 beautiful specimens,—"*these sheep are the descendants of the original importation from Spain, of 1778.*"

I consider this collection of specimens of Saxony wool as a practical illustration of my theory of sheep breeding and fine wool growing, verifying the rule which I laid down, long before I saw these specimens, that to insure a pure and perfect breed of fine woolled sheep, it is absolutely necessary to *preserve the two species of these animals entirely separate*, and not to mix the merinos with the common sheep of the country, as is too often done in the United States.

If any American sheep breeder still entertains a latent doubt as to the soundness of this rule, he is invited to inspect this collection, to have passed, separately, in review, the specimens from the various sheepfolds, and particularly to notice that this is not a collection of *picked locks*, from those parts of the animal where the wool is usually the finest; but that in order to afford the greatest facility of judging of the sheep from the wool, samples are given from all parts of the body, the shoulders, the withers, the back, from under the belly, the tail and the legs: let these be carefully examined, and they will be found to be *all wool*; not a *hair* to be found upon those parts of the sheep where the impure race commence showing hair.

I consider this uniformity and entirety of fibre as an unerring test of *purity of blood*; and therefore cannot but regard Saxony as an example, upon a large scale, and worthy of being followed, of the *perfection of sheep husbandry*.

It will be recollected that I have heretofore shown, by actual ad-measurements with the microscope and micrometer, that as fine wool can be produced in the United States, as in any part of the world; there is therefore no deficiency in *climate* or *soil*; all that the American agriculturist requires is to procure a pure breed, and to preserve them uncontaminated by spurious crossings. To obtain the former, I proffer free inspection of my cabinet, where there will be found samples of all the varieties, with references to the sheep-fold

from which they can be supplied, and even the number of the sheep whose wool is there exposed to view.

In connexion with this part of the exposé I ask particular attention to this suite of specimens from the Manor of Obermylaw, near Rechenbach. It will be recollected that the principal objection to the Saxo-merino sheep has heretofore been, that the staple is short, and consequently that the clip must be light; but these specimens, while they exhibit the maximum fineness, have a staple so long as to obviate entirely this objection. This variety of Saxon wool has not, so far as I know and believe, been before brought to this country, nor have the sheep from which it was taken, made their appearance in the United States; but it must be borne in mind, that as they are only a variety of the merino, the American planter and farmer may, by proper care and attention, produce it here, or he may import these very sheep, and by due management preserve the integrity of their fleece.

Upon the whole, therefore, I submit to you, gentlemen, that his Majesty the king of Saxony has conferred a singular favour upon the United States, in sending hither these specimens, and that he is entitled to the thanks of all good citizens who take an interest in this important branch of industry.

I am, gentlemen,

Your obedient servant,

P. A. BROWNE.

Mr. Lea presented a paper "On the Fossil Footmarks of the Red Sandstone, at Pottsville, Pennsylvania," which was referred to a Committee consisting of Dr. Hays, Dr. Leidy, and Dr. Ruschenberger.

Dr. Leidy called the attention of the members to certain mammalian remains belonging to the Society;—the principal one being an almost entire skull of an animal allied to the Peccary; but of a distinct genus. He also noticed one side of the lower jaw of a fossil tiger, enveloped in oxide of iron, the crowns of the canine and molar teeth being exposed. The proportions of this jaw indicate an animal of greater size than any specimen heretofore described, of the "fossil cave tiger," which was the largest known animal of the genus *Felis*. For this animal, Dr. Leidy proposes the name of "*Felis atrox*."

He intends to describe these remains more fully hereafter, in a communication for the Transactions of this Society.

Mr. Justice informed the members that he had received from Professor Boyé, specimens of the "*Protococcus nivalis*," brought by Dr. Kane from the arctic regions, and read a microscopical description of the plant.

The perfect type of the *Protococcus Nivalis*, is a globular cyst, varying in size from the $\frac{1}{2500}$ of an inch to the $\frac{1}{1000}$ of an inch in diameter; each cell or cyst having an opening, whose smallest diameter measures only the $\frac{1}{5000}$ part of an inch. This opening is surrounded by marked serrated or indented lines, as though by the expansion and gradual growth of the cell, the opening had also been irregularly expanded. The plant, when perfect, greatly resembles the red currant of our gardens; as it decays the red colouring matter is lost, being gradually superseded by a deep orange, which finally appears to change into a brown, or the cell becomes transparent. In this transparent state, when the cell is broken, the thickness of the enveloping cuticle may be measured, this does not exceed the $\frac{1}{20000}$ part of one inch; and, where the opening is preserved, the interior of it becomes of a delicate green colour. Many of the cells exhibit the hexagonal figure instead of being globular; but this is the result of compression, where masses of them have been thrown together. Mingled with the *protococcus* are fragments of a tissue of reticulated and cellular formation, much resembling some of the infusorial polycystina. So minute are the openings in these that they do not exceed the $\frac{1}{10000}$ part of an inch in diameter.

Pending nominations, Nos. 271 to 282, were read:—

Mr. Lea offered the following preamble and resolution:—

Whereas, the appropriation of the interest of the "Extra Magellanic Fund," made to the Committee of Publication, having been withdrawn by the appropriation of most of the principal, to the payment of the debts of the Society:

Resolved, That the same be now restored, according to the original intention, out of any fund not otherwise ordered by the Society, until it shall be equal to the amount at the time of its withdrawal; and that the interest received from said fund be semi-annually paid to the Publication Committee from this time.

On motion of Mr. Fraley, the above resolution was referred to the Committee of Finance.

Stated Meeting, April 16.

Present, eighteen members.

JUDGE KANE, Vice-President, in the Chair.

A letter was read from the President of the Corporation of Harvard College, dated Cambridge, Mass., March 16, 1852, acknowledging the receipt of No. 47 of the Proceedings of the Society.

The following donations were announced:—

FOR THE LIBRARY.

Flora Batava, of Afbeelding en Beschrijving van Nederlandsche Gewassen. door wijlen Jan Kops, vervolgd door P. M. E. Gevers Deijnoot. 166 Aflevering. Amsterdam. 4to.—*From H. M. the King of the Netherlands.*

The Eighteenth Annual Report of the Royal Cornwall Polytechnic Society. 1850. Falmouth. 8vo.—*From the Society.*

Proceedings of the Boston Society of Natural History. March, 1852. Boston. 8vo.—*From the Society.*

Journal of the Franklin Institute. Third Series. Vol. XXIII. No. 4. April, 1852. Philadelphia. 8vo.—*From the Institute.*

The African Repository. Vol. XXVIII. Nos. 3 and 4. March and April, 1852. Washington. 8vo.—*From the Am. Colonization Society.*

Annals of the Minnesota Historical Society, 1852: containing the Annual Address, by J. H. Simpson, 1st Lieut. Corps Topographical Engineers, and other Papers. Published by order of the Executive Council. St. Paul, Min. 8vo.—*From the Society.*

Second Report on Meteorology to the Secretary of the Navy, Nov. 12, 1849. By James P. Espy. Washington. 4to.—*From Hon. James Cooper, U. S. Senate.*

Memorial of Alfred Guthrie, a practical engineer, submitting the Results of an Investigation made by him into the Causes of the Explosion of Steam Boilers. Washington, Feb. 1852. 8vo.—*From the same.*

Executive Documents, 2d Session of 31st Congress, 1850-51. 8 vols.

Senate Documents,	„	„	5	„
D. Do. Miscellaneous,	„	„	1	vol.

Senate Reports, 2d Session of 31st Congress, 1850-51,	1 vol.
Senate Journal,	1 "
House Journal,	1 "
House Miscellaneous Documents,	1 "
„ Reports of Committees,	1 "
Washington. 8vo.— <i>From the Department of State.</i>	

The Committee appointed at the last meeting, to which was referred Mr. Lea's paper on the Fossil Footmarks, made report, recommending its publication in the Transactions of the Society, which was ordered accordingly.

Mr. Tilghman called the attention of the Society to the production of a large quantity of the Cyanide of Potassium in the working of the iron furnaces in Scotland, and to the importance of this phenomenon, both in a theoretical and practical point of view. Minute quantities of the salts of potassa had been found by Messrs. Bunsen and Playfair, both in the ore and in the coal, particularly in the former,—and Mr. Tilghman thought that it is possible that the remarkable difference in facility of reduction, which is known to exist between closely similar ores, may depend upon the presence of a greater or less quantity of this base in the ore.

The stated business of the meeting, the election of members, was postponed in consequence of there not being the requisite quorum present.

The Committee of Finance reported progress on the subject referred to them at the last meeting.

On motion of Mr. Fraley, the Secretary was directed to address a letter to Mr. Richard Parish, of Hamburg, as executor of Mr. David Parish, inquiring whether any disposition had been made in the will of the said David Parish, as to the collection of coins and medals deposited by him with this Society, or whether the executors wish to withdraw them.

On motion of Mr. Fraley, the Secretaries were authorized to furnish Peter A. Browne, Esq., with a copy of the Report of the Committee on the Collection of Wools sent to Mr. Browne by the King of Saxony.

On motion of Dr. Hays, a set of the casts of the Mastodon bones, in the possession of the Society, was directed to be

presented to the Academy of Natural Sciences of Philadelphia.

On motion of Mr. Fraley, a Committee was appointed, to which was referred the Laws of the Society, with instructions to report whether any, and if any, what amendments shall be made therein:—and Mr. Fraley, Judge Kane, and Mr. J. G. Morris were appointed as said Committee.

There being no quorum present for the election of members, the following nominations were adjourned to the next meeting, by the members proposing them, viz: No. 271, by Mr. Fraley; 272, by Dr. Harris; 273 and 274 by Prof. Kendall; 280, 281 and 282, by Mr. Lea.

Stated Meeting, May 7.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Present, twenty-seven members.

A letter was read from the Hon. Daniel Webster, Secretary of State, dated Washington, 13th April, 1852, announcing the donation of 21 volumes of Congressional Documents, for the Society's Library:—

And one from M. Michel Chevalier, of Paris, dated April 18, 1852, acknowledging the receipt of notice of his election as a member of the Society.

The following donations were announced:—

FOR THE LIBRARY.

Quarterly Journal of the Geological Society. Vol. VIII. Part 1.

No. 29. Feb. 1852. London. 8vo.—*From the Society.*

Monthly Notices of the Royal Astronomical Society. Vol. XII.

No. 4. Feb. 13, 1852. London. 8vo.—*From the Society.*

Proceedings of the Boston Society of Natural History; March, 1852. Boston. 8vo.—*From the Society.*

Flora Batava, of Afbeelding en Beschrijving van Nederlandsche Gewassen: door wijlen Jan Kops. Hoogleraar te Utrecht: vervolgd door P. M. E. Gevers Deijnoot, op Heidepark bij Nijmegen.

167 Aflevering. Amsterdam. 4to.—*From H. M. the King of the Netherlands.*

Information concerning the History, Condition and Prospects of the Indian Tribes of the United States :—collected and prepared under the direction of the Bureau of Indian Affairs, per Act of Congress of March 3, 1847. By Henry R. Schoolcraft, LL. D. Illustrated by S. Eastman, Capt. U. S. Army. Published by authority of Congress. Part 2. Philada. 1852. 4to.—*From L. Lea, Esq., Commissioner of Indian Affairs.*

The Life of Major General Peter Muhlenberg, of the Revolutionary Army. By Henry A. Muhlenberg. Philada. 1849. 8vo.—*From the Author.*

Financial Report of the State Treasurer, for the fiscal year, ending Nov. 29, 1851. Harrisburg. 8vo.—*From W. A. Crabb, Esq.*

The American Journal of Science and Arts. Second Series. Vol. XIII. No. 39. May, 1852. New Haven. 8vo.—*From the Editors, Profs. Silliman and Dana.*

The Medical News and Library. Vol. X. No. 113. May, 1852. Philadelphia. 8vo.—*From Blanchard & Lea.*

The Plough, the Loom and the Anvil. Vol. IV. No. 10. April, 1852. Philada. and N. York. 8vo.—*From F. G. Skinner, Esq., Editor.*

Journal of the Franklin Institute. Third Series. Vol. XXIII. No. 5. May, 1852. Philadelphia. 8vo.—*From the Institute.*

The African Repository. Vol. XXVIII. No. 5. May, 1852. Washington. 8vo.—*From the American Colonization Society.*

Dr. Kane exhibited to the Society a number of specimens of vegetable matter found by him on the ice-plains of the Polar seas.

They consisted of the minute filaments and radicles of two species of moss, (undetermined,) mingled with the leaves and corticle of a heath, recognizable by the unassisted eye as the andromeda tetragona; the broken thalli of several lichens, and in one case, the capsule of a saxifrage.

These were collected at different times during the long ice drift of the late Grinnell expedition, and at distances from land varying from 40 to 76 miles. They appeared as almost microscopic specks upon the surface of the snow fields, and would readily elude casual observation. They had been undoubtedly conveyed from the shore

over the dry and polished surface of the ice by the action of the winds, and it seemed as if they might be transported in the same manner to indefinite distances, unless arrested by the continued intervention of open water.

Dr. Kane alluded to the infusorial dust of South America and Africa, and the diffusion of volcanic ash and scoria over extended areas, as also to the presence of acetic and hippuric acids, &c., in the atmosphere, as detected by Fresnel and Horsford. He believed, however, that this was the first instance of an analogous observation with regard to organized and vegetable matter, and he regarded it as having an interesting connection with the *proto-coccus nivalis*, and other growths upon a *naked* snow surface.

In reply to the questions of members, Dr. Kane stated that he had collected the red snow at a point within the Arctic Circle, as high as lat. $76^{\circ} 15'$, and from the shores of Wellington channel to those of Greenland. Throughout all this extensive range it *was in no case found* on snow devoid of other vegetable life. It generally occupied dependant valleys and grooves, and was found there in connection with the fronds of lichens, portions of mosses, carices, the catkins of the willow, &c. &c. The intensity of its colouring appeared to bear a certain marked relation to the quantity of such foreign matter present in these localities.

Dr. Kane added, that Sir Edward Parry had detected this singular vegetable organism on the distant Spitzbergen ice-fields, and Sausure, Baer, and others, on isolated Alpine slopes; but that, even in these cases, it could not be said that the snow surface was absolutely without a vegetable nidus. He had himself collected this snow 76 miles from any land, and from surfaces which, but for a critical examination, would have seemed altogether pure.

He did not wish his remarks to be understood as bearing upon the general question of the ability of snow water to afford the necessary ammonia for the supply of the plants, but as simply indicating for many of the heretofore "*isolated*" localities of the red snow, the pre-existence of a matrix of vegetable character.

Dr. Leidy read a paper "On Extinct Species of the American Lion," which was referred to a Committee, consisting of Dr. Hays, Dr. Ruschenberger, and Mr. Lea.

The election of members having been adjourned to this meeting, the Society proceeded to ballot for candidates.

All other business having been concluded, the ballot boxes were opened, and the following named gentlemen were declared, by the presiding officer, to be duly elected members of the Society:—

JOHN NEILL, M. D., of Philadelphia.

JOHN J. REESE, M. D., ”

Prof. J. S. HUBBARD, of National Observatory, Washington.

Prof. W. C. BOND, of Cambridge, Mass.

Dr. THOMAS B. WILSON, of Philadelphia.

Mr. JOHN CASSIN, ”

Prof. J. H. ALEXANDER, of Baltimore.

Stated Meeting, May 21.

Present, twenty-five members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From W. Hunter, Acting Secretary, dated Department of State, Washington, May 18, 1852, announcing the return of Sayer and Bennett's Map of the United States, lent by this Society, in 1828, to the U. S. Government, for use on the question of the North-eastern Boundary:—

From A. D. Bache, Superintendent of the U. S. Coast Survey, dated Washington, April 6, 1852, accompanying a donation of sundry Coast Survey Maps, for the Society's Library:—

From Prof. J. S. Hubbard, dated Observatory, Washington City, May 10, 1852; and from Dr. Thomas B. Wilson, dated Philadelphia, May 19, 1852,—severally acknowledging the receipt of notice of their election as members of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Addresses delivered in the Hall of the House of Representatives, at Harrisburg, Pennsylvania, on Tuesday evening, April 6, 1852, by William V. Pettit and Rev. John P. Durbin, D. D. Published

by order of the Pennsylvania Colonization Society. Philada. 1852. 8vo.—*From the Penna. Colonization Society.*

U. S. Coast Survey Maps. 1. Hell Gate. 2. South side of Long Island, No. 1. 3. Entrance to Mobile Bay. 4. Hart and City Island, and Sachem's Head Harbours. 5. Richmond Island.—*From A. D. Bache, Superintendent U. S. Coast Survey.*

A Synopsis of the Family of Naiades. By Isaac Lea, Member of the American Philosophical Society, &c. Third edition. Philada. 1852. 4to.—*From the Author.*

FOR THE CABINET.

Sundry Roman Coins, presented by Dr. Leidy, as Curator of the Academy of Natural Sciences of Philadelphia, in the name of the *Southwark Library Company.*

The Committee appointed at the last meeting on a paper by Dr. Leidy, "On Extinct Species of the American Lion," reported in favour of publication, which was ordered accordingly.

Dr. Leidy read a memoir "On the Extinct Dicotylinae of America,"—which was referred to Dr. Hays, Dr. Ruschenberger and Mr. Lea, as a Committee.

Dr. Hays exhibited a small Galvanic Apparatus, for medical purposes, which he regards as beautiful and efficient. It furnishes an uninterrupted current of electricity, and is therefore devoid of the inconveniences occasioned by the interrupted current. It is the apparatus of Pulvermacher. Dr. Hays described the apparatus, which he has not yet subjected to trial. He is inclined, however, to think it will answer the purpose. Prof. Frazer has subjected the apparatus to action, which he describes as very feeble.

Dr. Dunglison, as Clerk, read the proceedings of the Board of Officers and Council, at their meeting, held on the 14th inst.

Pending nominations, Nos. 275 to 279, inclusive, and new nominations, Nos. 283 and 284, were read.

Mr. Fraley, from the Committee of Finance, reported on the subject of the "Extra Magellanic Fund," referred to them at the meeting of April 2, 1852, and recommended the following resolutions, which, after discussion, were adopted:—

Resolved, That a permanent *Publication Fund* be now established, which shall consist of any surplus of the income of the Society from rents, contributions and other sources, (other than the interest and dividends on the Trust Funds) after the payment of the ordinary expenses, and also of any unexpended balance of the annual appropriation to the Committee of Publication;—such surplus and unexpended balance at the close of each year to be invested, under the direction of the Committee of Finance;—and the principal and interest of the said permanent Publication Fund shall be subject to such appropriation to, and expenditure by, the Committee of Publication, as the Society may, from time to time, order and direct.

Resolved, That the present investments of the Society, and the re-investments of the same that may at any time hereafter be made, and the interest and dividends received thereon, shall now constitute the *Trust Funds* of the Society, and be so kept and accounted for by the Treasurer;—and all dividends and income received thereon shall be invested under the direction of the Committee of Finance, and be regularly added to, and form part of, the said Trust Funds. And the said Trust Funds, as so established and increased, shall be held and applied exclusively to meet and discharge the several Trusts assumed by the Society, and any other debt, of a special nature, for which it may now be liable.

Stated Meeting, June 18.

Present, thirteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Dr. Stillé, a recently elected member, was presented, and took his seat.

Letters were read:—

From the Secretary of l'Ecole des Mines, dated Paris, 12th January, 1852; from the Secretary of the Cambridge Philosophical Society, dated Cambridge, 31st March, 1852; from Don Pedro de Angelis, dated Buenos Ayres, 31st March, 1852;—all announcing donations for the Society's Library:—

From the American Academy of Arts and Sciences, dated

Boston, 25th May, 1852, returning an acknowledgment for No. 47 of the Proceedings:—

From J. H. Alexander, dated Baltimore, 24th May, 1852; from John J. Reese, dated June 4, 1852; and from John Neill, dated June 17, 1852, severally acknowledging the receipt of notice of their election as members of this Society: and—

From Isaac Lea, dated Philadelphia, June 2, 1852, conveying his resignation as a member of the Committee of Finance, and of the Committee of Publication, in consequence of absence from the city.

The following donations were announced:—

FOR THE LIBRARY.

Observations made at the Magnetical and Meteorological Observatory at Hobarton, in Van Diemen Island. Printed by Her Majesty's Government, under the superintendence of Col. Edward Sabine, of the Royal Artillery. Vol. II. Commencing with 1843: with Abstracts of the Observations from 1843 to 1850, inclusive. London. 1852. 4to.—*From the British Government.*

Flora Batava, of Afbeelding en Beschrijving van Nederlandsche Gewassen: door Jan Kops en J. E. Van der Trappen. Aflevering 165. Amsterdam. 4to.—*From the King of the Netherlands.*

Monthly Notices of the Royal Astronomical Society. Vol. XII. No. 5. March 12, 1852. London. 8vo.—*From the Society.*

Transactions of the Cambridge Philosophical Society. Vol. X. Part 2. Cambridge, 1851. 4to.—*From the Society.*

Annales des Mines. Quatrième Série. Tome XX. Livr. 5 de 1851. Paris. 8vo.—*From the Ecole des Mines.*

Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. VI. No. 2., with Title and Index to Vol. V. Philada. 1852. 8vo.—*From the Academy.*

Collections of the New York Historical Society. Vol. IV. 1829. 8vo.

Proceedings of the same, for 1844, 1845, 1846, 1848, 1849. 8vo.—*From the Society.*

Annual Report of the Trustees of the New York State Library: transmitted to the Legislature, March 9, 1852. Albany. 8vo.—*From the Trustees.*

- Journal of the Franklin Institute. 3d Series. Vol. XXIII. No. 6. June, 1852. Philada. 8vo.—*From the Institute.*
- The African Repository. Vol. XXVIII. No. 6. June, 1852. Washington. 8vo.—*From the American Colonization Society.*
- Memoria Historica sobre los derechos de soberania y dominio de la Confederacion Argentina, a la parte Austral del Continente Americano, &c. Por D. Pedro de Angelis. Buenos Ayres. 1852. 8vo.—*From the Author.*
- Mémoire sur la Constitution Minéralogique et Chimique des Roches des Vosges. (Ann. des Mines, Tome XX.) Par M. Delesse, Ingénieur des Mines. Paris. 1851. 8vo.—*From the Author.*
- The Classification of Mankind by the Hair and Wool of their Heads; with the Nomenclature of Human Hybrids. By P. A. Browne, LL.D. Philada. 1852. 8vo.—*From the Author.*
- Second Annual Report of the Directors of the Bellefontaine and Indiana Rail Road Company; with the Report of the Chief Engineer. May, 1852. Cleveland, O. 8vo.—*From W. M. Roberts, Chief Engineer.*
- Observations on the Genus Unio, together with descriptions of New Species in the families Unionidæ, Colimaceæ and Melaniana. By Isaac Lea, Member of the Am. Phil. Society, &c. Vol. V. Philada. 1852. 4to.—*From the Author.*
- On the Fossil Footmarks in the Red Sandstone of Pottsville, Pennsylvania. By Isaac Lea, Mem. Am. Phil. Society, &c. Philada. 1852. 4to.—*From the same.*
- On a Fossil Saurian of the New Red Sandstone Formation of Pennsylvania, with some account of that Formation; also on some New Fossil Molluscs in the Carboniferous Slates of the Anthracite Seams of the Wilkesbarre Coal Formation. By Isaac Lea, M. A. P. S., &c. Philada. 1852. 8vo.—*From the same.*
- The Plough, the Loom and the Anvil. Vol. IV. No. 11. May, 1852. N. Y. and Philada. 8vo.—*From F. G. Skinner, Editor.*
- The Medical News and Library. Vol. X. No. 114. June, 1852. Philada. 8vo.—*From Blanchard & Lea.*

The Committee to which was referred Dr. Leidy's paper "On the Extinct Dicotylinae of America," made report, recommending its publication in the Transactions of the Society, which was ordered accordingly.

Prof. Frazer announced the death of Dr. James B. Rogers,

Professor of Chemistry in the Medical Department of the University of Pennsylvania, a member of this Society, who died on the 15th inst., at the age of 50 years.

Dr. Charles M. Wetherill presented for the Transactions a paper entitled "Chemical Examination of two Minerals from the neighbourhood of Reading, Pennsylvania; and on the occurrence of Gold in Pennsylvania;" which was referred to a Committee, consisting of Prof. Frazer, Dr. Bridges and Mr. Trego. Remarks on the paper were made by Prof. Boyé, Mr. Trego, Prof. Frazer and Mr. Peale.

The following is an abstract of this paper:

Molybdenite.—Which is found in abundance at the Zion Church, Alsace, in the neighbourhood of Reading. The specimens analyzed were given me by Dr. Bischoff and Mr. Keim. The mineral occurs impure in mass, and of considerable purity in plates and scales; in a quartz matrix, presents the ordinary appearance of the mineral. Hardness, 1. Density, 4.52. The analysis gave the following per centage composition :

Water,	-	-	-	-	0.297
Sulphur,	-	-	-	-	38.198
Silica,	-	-	-	-	2.283
Perox. Iron,	-	-	-	-	3.495
Molybdenum,	-	-	-	-	55.727
					<hr/>
					100.000
					<hr/>

Zircon.—Found in the mineral spring valley behind Reading, and at a locality 8 or 9 miles from Reading, N. E. of Pricetown. Is imbedded so firmly in a matrix of magnetic iron ore, that the crystals when detached leave a glazing upon the ore. Some of the crystals are very large, one measuring $1\frac{1}{2}$ inches by $\frac{1}{4}$ inch by $\frac{3}{8}$ nearly. The planes and angles are all rounded off, as if subjected to a semi fusion. One fragmentary crystal was found with its angles and edges sharp and planes glass smooth. The colour, of chocolate brown; hardness, between 7 and 8; density, 4.595. The crystal raised gradually to white heat does not exhibit phosphorescence; becomes *deeper* in colour, gives off 0.35 per cent. of water, and increases in density, which is, after the operation, 4.62, corresponding to a condensation as 10.000 to 9.946.

The elutriated mineral, after heated to whiteness to determine the water, was analyzed by fusion with four times its weight of carbonate of soda, dissolving residue in water, completing the solution with hydrochloric acid, adding large excess of sulphuric acid, and evaporating until the sulphuric acid fumes began to be evolved, at which temperature it was kept for some time. The silica was then removed and the iron and zirconia separated by sulphurous acid, by Berthier's method. No lime nor magnesia was detected, nor were the alkalies found present. The per centage composition was

Silica, - - - - -	34.07
Zirconia, - - - - -	63.50
Perox. Iron, - - - - -	2.02
Water, - - - - -	0.50
	<hr/>
	100.09
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The presence of water in the mineral renders probable the observation by Scheerer, that malakon and zircon contain zirconia in allotropic conditions, and that they cannot be characterized by malakon only containing water, as is supposed by some mineralogists. The analysis of zircon was tried by attacking by bisulphate of ammonia, but with negative results.

Occurrence of gold in Pennsylvania.—The material examined, and which is believed to have been found upon the land of Mr. Yoder, in Franconia township, Montgomery county, where it was obtained in digging a well, consists of sand and gravel, containing in some instances shale, and accompanied by rocks of clay, slate and ferruginous quartz decayed in places, we examined by washing and by fusion with oxide of lead (previously tested for gold), and charcoal, followed by cupellation.

Both these methods gave gold in fine spangles. A small piece of gold somewhat thicker was detected adhering to the gravel, and also a grain of native tin. One and a half pounds of the gravel, freed from the pieces of rock, gave 0.006 grammes of gold, corresponding to 0.4 grammes of gold for the hundred pounds, worth by my calculation 26½ cents. The occurrence of native tin, about which there is no mistake, is interesting, and calculated to obviate the idea of fraud. This metal occurs only, I believe, with the Siberian gold.

Mr. R. A. Tilghman presented for the Transactions, a paper
 “On the Decomposition of the Alkaline Sulphates by Hydro-

chloric Acid and Chlorine," which was referred to a Committee consisting of Prof. Boyé, Dr. F. Bache and Dr. Weatherill.

Prof. Boyé made some remarks on the Salt-radical theory, proposing to adopt the name *oxysulphine* for the radical, and *oxysulphide* for the compound.

Dr. Boyé exhibited for inspection, under the microscope, a specimen of Fossil Infusoria, from a new locality, half a mile west of Succasunny, Morris Co., New Jersey. It was sent to him for examination, as a marl, and its true character at once recognised by him. From examinations made since, by Mr. James B. Fisher, at the request of Dr. Boyé, it appears that it extends over about 5 acres of land, covered with a moderate layer of peat, and the greater portion of it under water. It was first met with in digging a drain, and is said not yet to have been penetrated, at the depth of 7 feet.

Pending nominations, Nos. 275 to 279, and 283, 284, also new nomination, No. 285, were read.

The Librarian read a letter from Mr. W. Patton, of Washington, making inquiry concerning a work entitled "Pantologia," by Drs. Good and Gregory, which, on motion, was referred to the Librarian.

The resignations of Mr. Lea, as a member of the Committee of Publication, and of the Committee of Finance, were accepted; and Mr. Justice was appointed on the Committee of Finance, and Mr. Trego on the Committee of Publication.

Mr. Trego, on behalf of the Committee of Publication, laid before the Society, Part 2 of Vol. X. of the Transactions, which has been recently published.

Stated Meeting, July 16.

Present, ten members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Committee on the Library of Congress, dated Washington, June 29, 1852; from the Secretary of the Smithsonian Institution, dated Washington, June 28, 1852, and from the New Jersey Historical Society, dated Newark, June 30, 1852, returning acknowledgments for Vol. X. Part 2, of the Transactions of this Society:—

From the American Academy of Arts and Sciences, dated Boston, June 23, 1852, acknowledging the receipt of Vol. X. Part 2, of the Transactions, and of 12 Nos. of the Proceedings of this Society:—

From Prof. W. C. Bond, dated Cambridge, June 23, 1852, acknowledging the receipt of notice of his election as a member of this Society: and—

From B. F. French, dated New York, June 30, 1852, soliciting a donation of “some of the volumes published by the Society” to the New Orleans Fisk Free Library.

The following donations were announced:—

FOR THE LIBRARY.

Mémoires de l'Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique. Tomes XXIV. XXV. Bruxelles, 1850. 4to.—*From the Academy.*

Mémoires Couronnés, et Mémoires des Savants Etrangers: publiés par l'Académie Royale des Sciences, &c., de Belgique. Tome XXIII. 1848-50. 4to.—*From the same.*

Bulletins de l'Académie Royale des Sciences, &c., de Belgique. Tome XVI. 2ème. Partie, 1849: Tome XVII. 1ère et 2ème Parties. 1850. Tome XVIII. 1ère Partie. 1851. 8vo.—*From the same.*

Annuaire de l'Académie Royale des Sciences, &c., de Belgique. 1850-1851. Années 16, 17. Bruxelles. 12mo.—*From the same.*

- Mémoire sur la Chimie et la Physiologie Végétales, et sur l'Agriculture. Par Henri le Docte. Bruxelles. 1849. 8vo.—*From the same.*
- Exposé Général de l'Agriculture Luxembourgeoise, &c. Par Henri le Docte. Bruxelles, 1849. 8vo.—*From the same.*
- Annales de l'Observatoire Royal de Bruxelles: Par le Directeur A. Quetelet. Tome VIII. Première Partie. Bruxelles, 1851. 4to.—*From the Observatory.*
- Annuaire de l'Observatoire Royal de Bruxelles: Par. A. Quetelet, Directeur. 1850, 1851. Année 17, 18. Bruxelles. 12mo.—*From the same.*
- Quarterly Journal of the Geological Society. No. 30. Vol. VIII. Part 2, May 1, 1852. London. 8vo.—*From the Society.*
- Address delivered at the Anniversary Meeting of the Geological Society of London; Feb. 20, 1852. By William Hopkins, Esq., President of the Society. London. 8vo.—*From the same.*
- On the Causes which may have produced Changes in the Earth's Superficial Temperature. By William Hopkins, M. A., F. R. S., Pres. Geological Society, &c. &c. London, 1852. 8vo.—*From the same.*
- Astronomical Observations made at the Royal Observatory, Edinburgh. By the late Thomas Henderson, F. R. S. L. & E., F. R. A. S., &c. &c. Reduced and edited by his successor, Charles Piazz Smith, F. R. S. E., F. R. A. S., &c. Vol. X., for 1844, 5, 6, 7. Published by order of Her Majesty's Government. Edinburgh, 1852. 4to.—*From the Observatory.*
- Smithsonian Contributions to Knowledge. Vols. III. and IV. Washington, 1852. 4to.—*From the Smithsonian Institution.*
- Proceedings of the American Antiquarian Society, in Boston, April 30, 1851; in Worcester, Oct. 23, 1851; in Boston, April 28, 1852. Worcester. 8vo.—*From the American Antiquarian Society.*
- Proceedings of the Boston Society of Natural History. May, 1852. Boston. 8vo.—*From the Society.*
- The Documentary History of the State of New York; Arranged under direction of the Hon. Christopher Morgan, Secretary of State. By E. B. O'Callaghan, M.D. Vol. IV. Albany, 1851. 8vo.—*From the Regents of the University of the State of New York.*
- Fifth Annual Report of the Regents of the University, on the condition of the State Cabinet of Natural History, and the Historical

- and Antiquarian Collection annexed thereto. Feb. 2, 1852. Albany. 8vo.—*From the same.*
- Sixty-fifth Annual Report of the Regents of the University of the State of New York; made to the Legislature, March 1, 1852. Albany. 8vo.—*From the same.*
- Collections of the Historical Society of Pennsylvania. Vol. I. No. 3. May, 1852. Philada. 8vo.—*From the Society.*
- Journal of the Franklin Institute. 3d Series. Vol. XXIV. No. 1. July, 1852. Philada. 8vo.—*From the Institute.*
- Monthly Notices of the Royal Astronomical Society. Vol. XII. No. 6. April 7, 1852. London. 8vo.—*From the Society.*
- The American Journal of Science and Arts. Second Series. No. 40. July, 1852. New Haven. 8vo.—*From Profs. Silliman & Dana, Editors.*
- A Reply to the Strictures of Lord Mahon and others, on the mode of Editing the Writings of Washington. By Jared Sparks. Cambridge, 1852. 8vo.—*From the Author.*
- A Discussion of the Explosion of Burning Fluid, which took place in Salem, Feb. 24, 1852; and of several others of recent occurrence. By E. N. Horsford, Prof. Harvard University. Boston, 1852. 8vo.—*From the Author.*
- A Treatise on the Practice of Medicine: By George B. Wood, M. D. Professor of the Theory and Practice of Medicine in the University of Pennsylvania, &c. &c. Third Edition. 2 vols. 1852. Philada. 8vo.—*From the Author.*
- The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. No. XLVII. New Series. July, 1852. Philada. 8vo.—*From the Editor.*
- The Medical News and Library. Vol. X. No. 115. July, 1852. Philada. 8vo.—*From Blanchard & Lea.*
- The Medical Examiner and Record of Medical Science. Edited by Francis Gurney Smith, M.D., and John B. Biddle, M.D. New Series. Vol. VIII. Nos. 4, 5, 6, 7. April, May, June, July, 1852. Philada. 8vo.—*From Dr. F. G. Smith.*
- The Plough, the Loom and the Anvil. Vol. IV. No. 12. Vol. V. No. 1. June, July, 1852. N. York & Philada. 8vo.—*From F. G. Skinner, Editor.*
- A Collection of Pamphlets, 56 in number, comprising Reports, Public Documents, &c., of the State of Massachusetts, the Cities of Boston, Lowell, Roxbury, Dorchester, &c., containing Statistics

of Population, Education, Prisons, Insanity, Banks, Insurance, Rail Roads, &c. &c.—*From Dr. Edward Jarvis.*

On the Osteology of the Head of a Hippopotamus, and a Description of the Osteological character of a New Genus of Hippopotamidæ. By Joseph Leidy, M.D. Philada. 4to.—*From the Author.*

The Committee to which was referred the paper of Mr. R. A. Tilghman, "On the Decomposition of the Alkaline Sulphates by Hydrochloric Acid and Chlorine," reported in favour of publication in the Transactions, which was ordered accordingly, and the Committee discharged.

Dr. Dunglison reported the death of Dr. Brockenbrough, a member of this Society, who died at the Warm Springs, in Virginia, on the 3d inst., at the age of 84 years.

He also announced the death of Charles Picot, a member of this Society, which occurred in Paris, on the 27th of June, at the age of 60.

Dr. C. M. Wetherill read a completion of his paper read at the last meeting of the Society, which was referred to the same Committee.

On motion of Dr. Dunglison, Dr. Carson was appointed to prepare and present to the Society, an obituary notice of the late Dr. James B. Rogers, whose death was reported at the last meeting.

Dr. Charles M. Wetherill read a paper intended for the Transactions, "On a New Variety of Asphalt (Melan asphalt)", being a chemical examination of the asphalt, the subject of the paper of the late Richard Taylor, as published in the Proceedings January 15th, 1852. Dr. W. gave its ultimate analysis, relations of ash and volatile matter, electricity, solubility, density, fusibility, and comparison with other asphalts. He called attention to its resemblance to the asphalt from Coxitambo, analysed by Boussingault, and proposed for it the name, Melan Asphalt, in allusion to its beautiful and brilliant black colour.

This paper was referred to a Committee consisting of Dr. Bridges, Mr. Tilghman and Prof. Frazer.

On motion of Dr. Dunglison, Dr. Wetherill was permitted to

use a copy of the paper just presented, at a trial to be held in New Brunswick, N. S.

There being no quorum present, for the election of members, the stated business of the meeting could not be proceeded with.

Pending nominations, Nos. 275, 276, 277, 278, 279, 283, 284, 285, were read.

Stated Meeting, August 20.

Present, eight members.

Dr. PATTERSON, President, in the Chair.

Letters were read:—

From the Central Commission of Statistics, of Belgium, dated Bruxelles, 1st May, 1852, accompanied by the Report of a sub-committee, relative to the meeting of a Congress of Savants, of all nations, at Bruxelles, in the month of September next:—

From the Society of Sciences, Agriculture and the Arts, of Lille, dated Lille, 20th March, 1852; and from Professor Lepsius, dated Berlin, 20th June, 1852, announcing the transmission of donations to the Society: and—

From the Corporation of Harvard College, Cambridge, dated July 16, 1852, returning thanks for Vol. X. Part 2, of the Transactions of this Society; and from the Trustees of the New York State Library, dated Albany, August 6, 1852, acknowledging the receipt of the Society's Proceedings, No. 47.

The following donations were announced:—

FOR THE LIBRARY.

Mémoires de l'Académie Impériale des Sciences de St. Petersbourg :
VI.ème Série. Sciences Mathématiques, Physiques et Naturelles. Tome VII. Première Partie, Sciences Math. et Phys. Tome V. 3e et 4e livraisons. Seconde Partie, Sci. Nat. Tome V. 5e et 6e livraisons. Tome VIII. Seconde Partie, Sci. Nat. Tome VI. 4e livraison. St. Petersbourg, 1849, 50. 4to.—*From the Academy.*

- Mémoires présentés à l'Académie Impériale des Sciences de St. Petersbourg, par divers Savants, et lus dans ses assemblées. Tome VI. 4e livraison. St. Petersburg, 1849. 4to.—*From the same.*
- Recueil des Actes des Séances Publiques de l'Académie Impériale des Sciences de St. Petersburg, tenues le 28 Dec. 1847, et le 29 Dec. 1848. St. Petersburg, 1849. 4to.—*From the same.*
- Annales des Mines. Quatrième Série. Tome XX. 6e livraison de 1851. Cinquième Série. Tome I. 1e livraison de 1852. Paris. 8vo.—*From the Ecole des Mines.*
- Transactions of the Linnean Society of London. Vol. XXI. Part 1, and List of the Society for 1851. London. 4to.—*From the Society.*
- Proceedings of the Linnean Society. Nos. 45, 46, 47. (Feb. 4 to Dec. 16, 1851.) London. 8vo.—*From the same.*
- Quarterly Journal of the Chemical Society. Nos. XVII. XVIII. Vol. V. Nos. 1, 2. April and July, 1852. London. 8vo.—*From the Society.*
- Monthly Notices of the Royal Astronomical Society. Vol. XII. No. 5. March 12, 1852. London. 8vo.—*From the Society.*
- Mémoires de la Société Nationale des Sciences, de l'Agriculture et des Arts, de Lille. Année 1850. Lille. 8vo.—*From the Society.*
- Annals of the Lyceum of Natural History of New York. Vol. V. Nos. 7, 8. June, 1852. New York. 8vo.—*From the Lyceum.*
- Proceedings of the New Jersey Historical Society. Vol. V. No. 2. 1852. 8vo.—*From the Society.*
- Maryland Two Hundred Years Ago: A Discourse by S. F. Streeter. Delivered in Baltimore before the Maryland Historical Society, on its Seventh Anniversary Celebration, May 20, 1852. Baltimore. 8vo.—*From the Maryland Historical Society.*
- A Sketch of the Life and Services of General Otho Holland Williams: Read before the Maryland Historical Society, on Thursday evening, March 6, 1851. By Osmond Tiffany. Baltimore. 8vo.—*From the same.*
- Proceedings of the Boston Society of Natural History, June, 1852. Boston. 8vo.—*From the Society.*
- Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. VI. No. 3. May and June, 1852. Philada. 8vo.—*From the Academy.*
- Journal of the Franklin Institute. Third Series. Vol. XXIV. No. 2. August, 1852. Philada. 8vo.—*From the Institute.*

- Briefe aus Ägypten, Äthiopien und der Halbinsel des Sinai. Von Richard Lepsius. Berlin. 1852. 8vo.—*From the Author.*
- Nautisches Jahrbuch, oder vollständige Ephemeriden und Tafeln für das Jahr 1854: herausgegeben von Dr. C. Bremiker, Plankammer Inspector, &c. &c. Berlin, 1851. 8vo.—*From the Editor.*
- Report of the Secretary of the Navy, communicating a Report of the Engineer in Chief of the Navy, on the Comparative Value of Anthracite and Bituminous Coals: made to the Senate, May 24, 1852. Washington. 8vo.—*From Hon. James Cooper, U. S. Senate.*
- Speech of the Hon. Volney E. Howard, of Texas, on the Mexican Boundary Question, the Pacific Rail Road, the Collins Steamers: delivered in the House of Representatives, July 6, 1852. Washington. 8vo.—*From the Author.*
- Official Report of the United States Expedition to explore the Dead Sea and the River Jordan. By Lieut. W. F. Lynch, U. S. Navy. Baltimore, 1852. 4to.—*From the Author.*
- The Bible a Perfect Book: An Address delivered before the Bible Society of Pennsylvania College and of the Theological Seminary, April 13, 1852. By Rev. C. P. Krauth, Pastor of the Evangelical Lutheran Church, Winchester, Va. Gettysburg, 1852. 8vo.—*From Prof. Stoevers.*
- The Medical News and Library. Vol. X. No. 116. Aug. 1852. Philadelphia. 8vo.—*From Blanchard & Lea.*
- The Plough, the Loom and the Anvil. Vol. V. No. 2. Aug. 1852. N. York and Philada. 8vo.—*From the Editors.*
- The African Repository. Vol. XXVIII. Nos. 7, 8. July, August, 1852. Washington. 8vo.—*From the American Colonization Society.*
- A Catalogue of Stars near the Ecliptic, observed at Markree during the years 1848, 1849, 1850, and whose places are supposed to be hitherto unpublished. Vol. I., containing 14,888 stars. Dublin. 1851. 8vo.—*From the Royal Society.*

The Committee appointed at last meeting, on Dr. Wetherill's paper "On a new variety of Asphalt," reported in favour of its publication in the Transactions, which was ordered accordingly, and the Committee discharged.

The minutes of the Board of Officers and Council at their meeting on the 13th inst. were read.

Pending nominations, Nos. 275 to 279, and 283 to 285, inclusive, were read.

Stated Meeting, Sept. 17.

Present, thirteen members.

Judge KANE, Vice-President, in the Chair.

Letters were read:—

From the Geological Society of London, dated Somerset House, 6th Nov. 1851, returning thanks for No. 46 of the Proceedings of this Society:—

From the Lyceum of Natural History, dated New York, Sept. 8, 1852, acknowledging the receipt of the Society's Transactions, Vol. X. Part 2: and—

From Count Joseph Telsky, dated Pesth, 4th May, 1852, announcing the transmission of a donation to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Historische en Letterkundige Verhandelingen van de Hollandsche Maatschappij der Wetenschappen te Haarlem. Eerste Deel. Haarlem, 1851. 4to.—*From the Holland Society of Sciences at Haarlem.*

Proceedings of the American Association for the Advancement of Science. Sixth Meeting, held at Albany, N. Y. August, 1851. Washington. 8vo.—*From the Association.*

Journal of the Franklin Institute. 3d Series. Vol. XXIV. No. 3. Sept. 1852. Philadelphia. 8vo.—*From the Institute.*

The African Repository. Vol. XXVIII. No. 9. Sept. 1852. Washington. 8vo.—*From the American Colonization Society.*

Description of the Skeleton of the Mastodon Giganteus of North America. By John C. Warren, M. D., &c. &c. Boston, 1852. 4to.—*From the Author.*

American Journal of Science and Arts. Vol. XIV. No. 41. Sept. 1852. New Haven. 8vo.—*From Profs. Silliman & Dana, Editors.*

Report of the Officers constituting the Light House Board, convened under instructions from the Secretary of the Treasury, to inquire into the condition of the Light House Establishment of the Uni-

ted States, under the Act of March 3, 1851. Washington, 1852. 8vo.—*From the Hon. James Cooper, U. S. Senate.*

Report of the Committee on Foreign Relations, in the Senate of the United States, relative to fixing the initial point in the boundary line between the United States and Mexico. Washington, Aug. 20, 1852. 8vo.—*From Col. J. J. Abert, of United States Topographical Engineers.*

Report of Prof. R. S. McCulloh, to the Secretary of the Treasury, upon refining Gold with Zinc:—And a Letter from Prof. McCulloh to the Secretary, in reply to the Report of the Director of the Mint. Washington, 1852. 8vo.—*From the Author.*

Report of the Eastern Lunatic Asylum, in the City of Williamsburg, Virginia, 1851:—And Essays on Asylums for persons of unsound mind. By John M. Galt, M.D., Superintendent and Physician of the Eastern Lunatic Asylum, of Virginia. Richmond, 1850. 8vo.—*From the Author.*

The Medical News and Library. Vol. X. No. 117. Sept. 1852. Philadelphia. 8vo.—*From Blanchard & Lea.*

The Plough, the Loom and the Anvil. Vol. V. No. 3. Sept. 1852. N. Y. and Philadelphia. 8vo.—*From F. G. Skinner, Editor.*

The Committee to which was referred Dr. Wetherill's paper on a Chemical Examination of certain Minerals from the neighbourhood of Reading, Pennsylvania, reported, recommending its publication in the Transactions of the Society; which was ordered, and the Committee discharged.

Dr. Kane made some remarks on the Ice Drift of Baffin's Bay, showing that the Gulf stream enters the Arctic Ocean on the European side, and affects the climate of Nova Zembla; while another current, running along the coast of Greenland, enters Baffin's Bay, running north, and is supposed to terminate short of the Arctic circle.

Pending nominations for membership were read.

Stated Meeting, October 1.

Present, eight members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

The following donations were announced :—

FOR THE LIBRARY.

Astronomical Observations made at the Radcliffe Observatory, Oxford, in the year 1850 : By Manuel J. Johnson, M. A. Radcliffe Observer. Vol. XI. Oxford, 1852. 8vo.—*From the Radcliffe Trustees.*

Annals of the Lyceum of Natural History of New York. Vol. V. Nos. 9-14. Aug. 1852. New York. 8vo.—*From the Lyceum.*

Proceedings of the New Jersey Historical Society: sundry missing Nos. to complete the series up to the present time.—*From the Society.*

Proceedings of the Academy of Natural Sciences, of Philadelphia. Vol. VI. No. 4. July and August, 1852. Philadelphia. 8vo.—*From the Academy.*

Obituary Addresses on the occasion of the Death of Hon. Henry Clay, a Senator of the United States from the State of Kentucky, delivered in the Senate and in the House of Representatives of the United States, June 30, 1852;—and the Funeral Sermon of the Rev. C. M. Butler, Chaplain of the Senate, preached in the Senate, July 1, 1852.—Washington. 8vo.—*From the Hon. James Cooper, U. S. Senate.*

Mr. Trego announced the death of the Rev. Philip Milledoler, of New Jersey, a member of this Society, who died Sept. 22, 1852, aged 77.

Nominations for membership were read.

Stated Meeting, October 15.

Present, eighteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Dr. Mütter, a newly elected member, was introduced, and took his seat.

Letters were read:—

From the Society of Antiquaries, London, dated Somerset House, Aug. 31, 1852,—and from the Leeds Philosophical Society, dated Philosophical Hall, Leeds, Sept. 4, 1852,—acknowledging the receipt of the Proceedings of this Society, No. 47:—

From Dr. Martyn Paine, dated New York, Oct. 5, 1852, announcing that he has forwarded, as a donation to the Society, sundry works of which he is the author: and—

From Dr. B. A. Gould, jr., dated Cambridge, Oct. 7, 1852, acknowledging the receipt of the subscription money for Vol. 2 of the Astronomical Journal,—and asking the Society “to accept the Journal as a gift hereafter.”

The following donations were announced:—

FOR THE LIBRARY.

Journal of the Franklin Institute. Third Series. Vol. XXIV. No.

4. October, 1852. Philadelphia. 8vo.—*From the Institute.*

Memoir of Robert Troup Paine: by his Parents. Printed for private distribution. New York, 1852. 4to.—*From Dr. Martyn Paine.*

Medical and Physiological Commentaries: by Martyn Paine, M.D.

A.M. 3 vols. 8vo. New York, 1840.—*From the Author.*

The Institutes of Medicine: by Martyn Paine, A.M. M.D. Prof. Inst.

Med. in the University of New York. New York, 1847. 8vo.—

From the same.

Materia Medica and Therapeutics: by Martyn Paine, A.M. M.D., &c. &c. New York, 1848. 8vo.—*From the same.*

A Discourse on the Soul and Instinct, physiologically distinguished from Materialism: by Martyn Paine, A.M. M.D., &c. &c. New York. 1849. 8vo.—*From the same.*

Lectures on the Electro-Magnetic Telegraph, with a Historical Ac-

count of its Rise and Progress;—containing a list of the number of Telegraphic Lines in the World, &c. &c. By Laurence Turnbull, M.D. Lecturer on Technical Chemistry at the Franklin Institute. Philadelphia, 1852. 8vo.—*From the Author.*

Medical Lexicon. A Dictionary of Medical Science: By Robley Dunglison, M.D. LL.D. Prof. Inst. Med., &c., in Jefferson Medical College, Philadelphia. Ninth Edition, revised. Philadelphia, 1852. 8vo.—*From the Author.*

The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D., &c. &c. No. XLVIII. New Series. Oct. 1852. Philadelphia. 8vo.—*From the Editor.*

The Medical News and Library. Vol. X. No. 118. Oct. 1852. Philada. 8vo.—*From Blanchard & Lea.*

The Plough, the Loom and the Anvil. Vol. V. No. 4. Oct. 1852. N. York and Philadelphia. 8vo.—*From F. G. Skinner, Esq.*

Dr. Elwyn announced the death of the Rev. Dr. Samuel B. Wylie, a member of this Society, who died on the 13th inst., in the 80th year of his age.

Dr. Bache announced the death of Mr. John L. Stephens, a member of the Society, who died in New York, on the 12th inst., aged 47.

There not being a quorum of members present to enable the Society to proceed to the election of members, a recess of half an hour was taken, and there still being no quorum present:—

On the proposition of one or more of the members, who nominated candidates Nos. 284 and 285, their election was postponed to the next stated meeting.

Stated Meeting, November 5.

Present, seventeen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Letters were read:—

From the Hungarian Academy of Sciences, dated Pesth, 15th March, 1852;—from the Central Commission of Statis-

tics of Belgium, dated Bruxelles, December, 1847;—from Wilhelm Braumüller, book agent of the Imperial Academy of Sciences at Vienna, dated Vienna, 16th Dec. 1851, 20th March, and 24th July, 1852;—from the Royal Society of Sciences of Denmark, dated Copenhagen, 28th May, 1852;—from the Royal Bavarian Academy of Sciences, dated 15th May, 1852;—from the Society of Antiquaries, dated London, August 19, 1852;—severally announcing the transmission of donations to this Society:—and from the Royal Society of Sciences at Göttingen, dated 15th April, 1852, accompanying a donation, and acknowledging the receipt of Nos. 45 and 46 of the Proceedings of this Society: and—

From the Royal Institution of Great Britain, dated Albemarle street, Sept. 3, 1852;—from the Statistical Society of London, dated 4th Oct. 1852;—from the Connecticut Historical Society, dated Hartford, Oct. 4, 1852;—from the New Jersey Historical Society, dated Newark, Oct. 30, 1852;—all acknowledging the receipt of No. 47 of the Proceedings.

The following donations were announced:—

FOR THE LIBRARY.

Â Magyar Tudós Társaság Evkönyvei, III. IV. V. VI. VII. Kötet. Buda, 1837—1846. 4to.—*From the Hungarian Academy of Sciences.*

Régi Magyar Nyelvelmékek. Kiadta a Magyar Tudós Társaság, I. II. III. Kötet. Buda. 1838—1842. 4to.—*From the same.*

Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin. Aus dem Jahre, 1850. Berlin, 1852. 4to.—*From the Royal Academy of Sciences at Berlin.*

Monatsbericht der Königl. Preuss. Akad. der Wissenschaften zu Berlin. July—Dec. 1851; Jan.—June, 1852. Berlin. 8vo.—*From the same.*

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Phil. Hist. Classe, VII. Band, 1851; 2—5 Heft: VIII. Band, 1852, 1 Heft. Math. Naturwissenschaftliche Classe, VIII. Band, 1, 2, 3 Heft.—*From the Imperial Academy of Sciences at Vienna.*

Archiv für Kunde Oesterreichischer Geschichts-quellen, VII. Band. 1—4 Heft.

- Kritische Durchsicht der von Davidow verfassten Wörtersammlung aus der Sprache der Ainós. Von Dr. August Pfizmaier.
- Kalender der Flora des Horizontes von Prag. Von Karl Fritsch.
- Tafeln zur Vergleichung und Reduction der in verschiedenen Längenmassen abgelesenen Barometerstände. Von J. J. Pohl und J. Schabus.
- Tafeln zur Reduction der in Millimetern abgelesenen Barometerstände auf die normal temperatur von 0° Celsius. Berechnet von J. J. Pohl und J. Schabus.
- Notizenblatt, 1851, Nos. 19—24. 1852, Nos. 1—10. Wien. 8vo.—*From the same.*
- Nachrichten von der Georg-Augusts-Universität und der Königlichen Gesellschaft der Wissenschaften zu Göttingen. Vom Jahre, 1851. Nos. 1—19. Göttingen. 8vo.—*From the Royal Society of Sciences, Göttingen.*
- Erste Säcularfeier der Königl. Gesellschaft der Wissenschaften zu Göttingen, 29th Nov. 1851. Göttingen. 4to.—*From the same.*
- Species, Genera et Ordines Algarum. Auctore Jacobo Georgio Agardh. 3 vols. 1848, 1851, 1852. Lund. 8vo.—*From the Author.*
- Recensio Specierum Generis Pteridis. Auct. J. J. Agardh. 1839. Lund. 8vo.—*From the same.*
- Archæologia; or Miscellaneous Tracts relating to Antiquity: published by the Society of Antiquaries of London. Vols. 33, 34. London, 1849—1852. 4to.—*From the Society.*
- Proceedings of the Society of Antiquaries of London. Vol. II. Nos. 18—32. 1849—1852. London. 8vo.—*From the same.*
- Catalogue of the Library of the Royal Geographical Society: corrected to May, 1851. London, 1852. 8vo.—*From the Society.*
- Address at the Anniversary Meeting of the Royal Geographical Society, 24th May, 1852. By Sir R. I. Murchison, M.A. F.R.S., &c. &c. London, 1852. 8vo.—*From the same.*
- Quarterly Journal of the Geological Society. No. 31. Vol. VIII. Part 3. Aug. 1, 1852. London. 8vo.—*From the Society.*
- Twenty-ninth Annual Report of the Royal Asiatic Society of Great Britain and Ireland, 1852: To which is added a later communication from Lt. Col. Rawlinson, C. B., containing outlines of Assyrian History, from the Inscriptions of Nineveh; followed by some remarks by A. H. Layard, Esq. London, 1852. 8vo.—*From the Society.*
- Report of the Twenty-first meeting of the British Association for the

- Advancement of Science, held at Ipswich in July, 1851. London, 1852. 8vo.—*From the Association.*
- Det Kongelige Danske Videnskabernes Selskabs Skrifter: V. Række. Naturvidenskabelig og Mathematisk Afdeling. Andet Bind. Kjøbenhavn, 1851. 4to.—*From the Royal Danish Society of Sciences.*
- Abhandlungen der Math. Phys. Classe der Königl. Bayerischen Akademie der Wissenschaften. Band VI. Abth. 2. München, 1851. 4to.—*From the Royal Bavarian Academy of Sciences.*
- Bulletin der Königl. Akad. der Wissenschaften, 1851. Nos. 1—43. München. 4to.
- Gelehrte Anzeigen. Bände 32, 33. 1851. München. 4to.—*From the same.*
- Beobachtungen des Meteorologischen Observatoriums auf den Hohenpeissenberg, von 1792—1850. Von Dr. J. Lamont. München, 1851. 8vo.—*From the same.*
- Statistique de la Belgique. *Population.* Mouvement de l'Etat Civil pendant les années 1845, 1849, 1850. 3 vols.
- Statistique de la Belgique. *Industrie.* Recensement General, 15 Oct. 1846. 1 vol.
- Statistique de la Belgique. *Agriculture.* Recensement General, 15 Oct. 1846. 1 vol.
- Publié par le Ministre de l'Intérieur. Bruxelles. Folio.
- Bulletin de la Commission Centrale de Statistique. Royaume de Belgique. Tomes III. IV. Bruxelles, 1847, 1851. 4to.—*From the Central Commission of Statistics, Belgium.*
- The Pharmacopœia of the United States of America. By Authority of the National Medical Convention held at Washington, A. D. 1850. Philada. 1851. 8vo.—*From the Committee of Revision and Publication of the National Medical Convention.*
- The American Journal of Science and Arts. Second Series. No. 42. Nov. 1852. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*
- The Astronomical Journal. No. 49. (Vol. III. No. 1.) Cambridge, Oct. 23, 1852. 4to.—*From B. A. Gould, jr., Editor.*

Mr. Trego announced the death of the Hon. Daniel Webster, a member of this Society, who died at Marshfield, October 24, 1852, aged 71:—and, on motion of Dr. Harris, the Rev. H. A. Boardman was appointed to prepare an obituary notice of the deceased member.

Mr. Trego also announced the death of Mr. Isaac Wayne, a member of this Society, who died on the 25th ult., aged 83.

Mr. Trego exhibited to the Society some mineral specimens procured by Dr. Hammond, of the U. S. Army, from a volcanic region in New Mexico, between the waters of the Rio del Norte and the Gila, on the Pacific slope. Among them are specimens of garnets; beautiful for their fineness of colour and excellence of composition.

Dr. Hammond says, that in that part of New Mexico, the common potato (*Solanum tuberosum*), grows abundantly in a wild state, and is apparently indigenous in that region. Some of the tubers from this native growth have been sent to the President of an Agricultural Society in New York, for experiment in planting.

Mr. Henry D. Gilpin, on the part of Mr. Cogswell, librarian of the Astor Library in New York, stated that the Library has duplicates of the early volumes of the *Transactions* of this Society, which they would be glad to exchange for the *fourth*, and all after the *sixth* volume of the New Series:—which, on motion, was referred to the Librarian of the Society, with power to take order. Mr. Gilpin further reported the satisfactory condition of the Astor Library, which he had recently visited.

The Society then proceeded to the adjourned election of members:—when, on the proposition of two of those who had nominated No. 284, the balloting for that nomination was postponed until the meeting for election in January next.

The pending and new nominations were read.

All other business having been concluded, the ballot box was opened, and the following named gentleman was declared by the presiding officer to be duly elected as a member of the Society.

Lieut. M. F. MAURY, of the U. S. Navy.

Stated Meeting, November 19.

Present, twenty-one members.

JUDGE KANE, Vice-President, in the Chair.

Letters were read:—

From C. C. Rafn, Secretary of the Royal Society of Northern Antiquaries, dated Copenhagen, July 29, 1852, accompanying a programme of a proposed publication by that Society, on British and Irish Antiquities, from records contained in old northern manuscripts;—and also a printed sketch of “the Discovery of America by the Northmen:”—

From Mr. Isaac Lea, dated Paris, Oct. 27, 1852, on transmitting a communication from M. Michaux:—

From M. F. André Michaux, dated Vauréal pres Pontoise, 25th Oct. 1852, in relation to the cultivation of trees; also expressing his grateful feelings towards this Society and the people of the United States, referring to the kindness and hospitality shown to his father and to himself, many years since, during their travels in the United States. This letter is accompanied by a sealed paquet, to be preserved by the Society, unopened, until after the decease of Mr. Michaux:—

From the Imperial Academy of Sciences at Vienna, dated 20th December, 1851, returning thanks for Nos. 40 to 46 of the Proceedings of this Society, and expressing a wish to be supplied with the previously published numbers:—

From the Connecticut Historical Society, dated Hartford, Nov. 8, 1852, acknowledging the receipt of No. 47 of the Proceedings: and—

From Lieut. M. F. Maury, dated National Observatory, Nov. 12, 1852, acknowledging the receipt of notice of his election as a member of the Society.

On motion of Col. Biddle, it was resolved that a letter be written by the Secretary, acknowledging to Mr. Michaux the receipt of the sealed document sent by him to the Society, and informing him that it will be carefully preserved, in accordance with his wishes.

The following communication was read from Dr. Patterson, the President of the Society:—

Philadelphia, 18th Nov. 1852.

To the Members of the American Philosophical Society:

Gentlemen,—Having been for several years chosen by you as President of the American Philosophical Society, an honour of which I have always entertained a high appreciation, I feel that it is now prudent for me to decline being again a candidate.

Advancing years and declining health admonish me to seek quiet and repose; but I beg to assure you that, though retired from active duties as an officer of the Society, I shall ever feel a lively interest in its welfare, and a desire that its efforts for “the promotion of useful knowledge” may successfully continue.

R. M. PATTERSON.

And, on motion of Prof. Frazer, the Secretary was instructed to address a letter to Dr. Patterson, expressive of the high estimation in which the Society has always held him, and of their deep regret that he should find it necessary to decline being again a candidate.

On motion of Mr. Trego, it was resolved that the sealed paquet transmitted by Mr. Michaux, be deposited in the document box of the Society, which is placed for safe keeping in the vault of the Philadelphia Saving Fund Society.

The following donations were announced:—

FOR THE LIBRARY.

De la Différence du Pouvoir dispersif des deux Electricités. (Note de M. Zantedeschi, communiquée par M. Arago. Comptes Rendus de l'Acad. des Sciences. Tome XXXV.) 4to.—*From M. Zantedeschi.*

Notice Historique sur M. R. Fulton. Par M. André Michaux, Membre de la Société Nationale et Centrale d'Agriculture. Paris. 4to.—*From the Author.*

Explanations and Sailing Directions, to accompany the Wind and Current Charts, approved by Commodore Charles Morris, Chief of the Bureau of Ordnance and Hydrography, and published by authority of Hon. William A. Graham, Secretary of the Navy.

By Lieut. M. F. Maury, U. S. N. Fourth Edition. Washington, 1852. 4to.—*From the Author.*

A set of Charts, on 36 sheets, comprising Wind and Current Charts, Pilot Charts, Whale Charts, &c. By Lieut. M. F. Maury, U. S. N. Washington, 1849—1852.—*From the same.*

Catalogue of the Officers, Teachers and Students of the University of Northern Pennsylvania, from Nov. 3, 1851, to Sept. 30, 1852: together with the Address of the Hon. George W. Woodward, delivered before the University, April 1, 1852. Honesdale. 8vo.—*From William Duane, Esq.*

The African Repository. Vol. XXVIII. Nos. 10, 11. Oct. and Nov. 1852. Washington. 8vo.—*From the American Colonization Society.*

The Medical News and Library. Vol. X. No. 119. Nov. 1852. Philada. 8vo.—*From Blanchard & Lea.*

The Plough, the Loom and the Anvil. Vol. V. No. 5. Nov. 1852. N. Y. and Philada. 8vo.—*From F. G. Skinner, Editor.*

Journal of the Franklin Institute. Third Series. Vol. XXIV. No. 5. Nov. 1852. Philada. 8vo.—*From the Institute.*

Proceedings of the Boston Society of Natural History, Oct. 1852. Boston. 8vo.—*From the Society.*

Contributions to Conchology. By Prof. C. B. Adams. No. 11. Amherst. 8vo.—*From the Author.*

Dr. Meigs announced the death of Dr. Drake, a member of the Society, who died at Cincinnati on the 5th inst., in the 67th year of his age; and, on motion of Dr. Dunglison, Dr. Meigs was appointed to prepare an obituary notice of the deceased member.

Mr. Trego adverted to the remarks made by him at the last meeting, on certain mineral specimens found on the table land west of the Rio del Norte, and laid before the Society some fine specimens of copper ore, from the same region. These he had temporarily mislaid at the last meeting; but had since found them. They are chiefly specimens of native copper, and were given him by Dr. Hammond, of the U. S. Army, who found that smelting establishments had existed in the locality in which the specimens were obtained, but had been abandoned.

Dr. Duglison, Clerk of Board of Officers and Council, read the Minutes of the proceedings at the last meeting of the Board.

Pending and new nominations for membership were read.

Stated Meeting, December 3.

Present, twenty-one members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

Dr. Thomas B. Wilson, a recently elected member, was presented, and took his seat.

A letter was read from the Historical Society of Pennsylvania, communicating their thanks for No. 47, of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. VI. No. 5. Sept. and Oct. 1852. Philada. 8vo.—*From the Academy.*

An Expedition into the Valley of the Great Salt Lake of Utah; including a Description of its Geography, Natural History, and Minerals, and an Analysis of its Waters: with an Authentic Account of the Mormon Settlement. Also a Reconnaissance of a New Route through the Rocky Mountains; and two large and accurate Maps of that region. By Howard Stansbury, Captain Corps of Topographical Engineers, U. S. Army. Philadelphia, 1852. 8vo.—*From Major Hartman Bache.*

The Mormons, or Latter-Day Saints, in the Valley of the Great Salt Lake: A History of their rise and progress, peculiar doctrines, present condition and prospects;—derived from personal observation during a residence among them. By Lieut. J. W. Gunnison, of the Topographical Engineers. Philada. 1852. 8vo.—*From the same.*

The Astronomical Journal. No. 50. (Vol. III. No. 2.) Nov. 20, 1852. Cambridge, Mass. 4to.—*From Dr. B. A. Gould, jr., Editor.*

Report of Experiments on Gunpowder, made at Washington Arsenal in 1843 and 1844. By Capt. Alfred Mordecai, of the Ordnance Department. Washington, 1845. 8vo.—*From the Author.*

Second Report of Experiments on Gunpowder, made at Washington Arsenal, in 1845, 1847 and 1848. By Brevet Major Alfred Mordecai, of the Ordnance Department. Washington, 1849. 8vo.—*From the same.*

The Ordnance Manual, for the use of the Officers of the United States Army. Second Edition. Washington, 1850. 8vo.—*From the same.*

Monthly Notices of the Royal Astronomical Society. Vol. XII. No. 7, 8. May 14. June 11, 1852. London. 8vo.—*From the Society.*

Dr. Dunglison, Secretary, reported the following letter, written by him to the President, Dr. Patterson, according to the direction of the Society at the last meeting.

Am. Philosophical Society, Nov. 19, 1852.

Sir,—I am instructed, by the American Philosophical Society, to express to you the sincere regret with which they have received the announcement of your intention to decline being again a candidate for the office of President of the Society; and to assure you of the affectionate esteem which the members entertain for you, and their high sense of the able, dignified and courteous manner in which you have discharged the duties that have devolved upon you for several years, as their presiding officer. Whilst they sympathize with you on the motives which have admonished you to decline being again a candidate, they fervently hope that one of them,—“declining health,”—may soon cease to oppress you, and that you may be destined for many years of healthful and happy enjoyment.

I have the honour to be, sir,

Your obedient humble servant,

ROBLEY DUNGLISON,

Sec. Am. Phil. Soc.

Dr. R. M. PATTERSON,

President of the Am. Phil. Soc.

The Rev. Dr. Boardman, in pursuance of an appointment at a former meeting, read an obituary notice of the Hon. Daniel Webster.

Judge KANE announced the death of the Hon. John Sergeant, a member of the Society, who died on the 23d ultimo, in the 73d year of his age.

The Treasurer presented his Annual Report, which was read, and referred to the Committee of Finance.

No report being received from the Committee of Publication, the subject was postponed to the next meeting.

Nominations for membership were read.

Stated Meeting, December 17.

Present, thirty members.

Judge KANE, Vice-President, in the Chair.

Dr. Pancoast, a recently elected member, was introduced and took his seat.

Letters were read:—

From the Hon. Edward Everett, Secretary of State, dated Department of State, Washington, 15th December, 1852, on returning Dunn's Map of the British Empire, of 1774, loaned by this Society, in 1828, to the United States' Commission for submitting the question of the disputed North-eastern boundary to the arbitration of the King of the Netherlands: and—

From the Imperial Society of Naturalists of Moscow, dated Moscow, 4—16 June, 1852, accompanying a donation for the Library.

The following donations were announced:—

FOR THE LIBRARY.

Bulletin de la Société Impériale des Naturalistes de Moscou. Année 1851. Nos. 3, 4. Année 1852. No. 1. Moscou. 8vo.—*From the Society.*

Die Mineral Regionen der obern Halbinsel Michigan's, N. A. am Lake Superior und die Isle Royal. Von C. L. Koch, &c. &c. Mit einer geognostischen Karte. Göttingen, 1852. 8vo.—*From Prof. Hausmann.*

The Documentary History of the State of New York: Arranged

- under the direction of the Hon. Christopher Morgan, Secretary of State. By E. B. O'Callaghan, M.D. Vol. II. Albany, 1850. 4to.—*From the Regents of the University of the State of N. Y.*
- Proceedings of the New Jersey Historical Society. Vol. V. No. 3. Newark, 1852. 8vo.—*From the Society.*
- Journal of the Franklin Institute. 3d Series. Vol. XXIV. No. 6. Dec. 1852. Philadelphia. 8vo.—*From the Institute.*
- The Medical News and Library. Vol. X. No. 120. Dec. 1852. Philadelphia. 8vo.—*From Blanchard & Lea.*
- Register of the Officers and Graduates of the U. S. Military Academy at West Point, N. Y., from March 16, 1802, to January 1, 1850. Compiled by Capt. George W. Cullum, Corps Engineers U. S. Army. New York, 1850. 8vo.—*From Major Hartman Bache.*
- A Collection of Tables and Formulæ, useful in Geodesy and Practical Astronomy; including Elements for the projection of Maps. Prepared by order of the Topographical Bureau, for the use of the Corps of Topographical Engineers: By Capt. T. J. Lee, Topographical Engineer. Washington, 1849. 8vo.—*From the same.*
- Determination of the Latitude with Zenith and Equal Altitude Telescope. By Capt. T. J. Lee, U. S. Corps Topographical Engineers. Washington. 4to.—*From the same.*
- Longitude by Lunar Culminations. Published by the Topographical Bureau of the War Department. Washington. 4to.—*From the same.*
- Three Pamphlets, entitled: Remarks on the Circular Letters to the Secretary of War, to be signed by the Artillery Officers; with a Review of the Memoir on the U. S. Artillery, January, 1852:—Notice of a Reply to the Review of a Memoir on the U. S. Artillery:—The Ordnance and the Artillery.—*From the same.*
- Report to the House of Representatives of the U. S. of America, vindicating the rights of Charles T. Jackson to the Discovery of the Anæsthetic effects of Ether Vapour, and disproving the claims of W. T. G. Morton to that discovery. Presented to the House of Representatives Aug. 28, 1852, by Hon. Edward Stanley, of North Carolina, and Hon. Alexander Evans, of Maryland, Members of the Select Committee on the Ether Discovery. 8vo.—*From an Anonymous Donor.*

Dr. Kane announced to the Society a second projected expedition to the Arctic regions, in search of Sir John Franklin, and gave, at length, an account of the objects of the same, and

of the efforts that had already been made in the same direction:—Whereupon, after some remarks by Mr. H. D. Gilpin, on motion of Prof. Frazer, it was—

Resolved, That a Committee of five members be appointed to act in concert with Dr. Kane, with the Coast Survey, the Smithsonian Institution, and such Societies as have determined to co-operate with him in carrying into effect the scientific objects of the expedition.

The Committee, appointed under the foregoing resolution, consists of Prof. Frazer, Mr. H. D. Gilpin, Prof. A. D. Bache, Prof. Henry and Dr. Dunglison:—to which, on motion of Prof. Frazer, to increase the number of the Committee, Mr. Justice and Mr. D. B. Smith were added.

Dr. Dunglison presented the two following resolutions, which were adopted by the Society:—

1. *Resolved*, That the American Philosophical Society highly appreciates the enlightened zeal exhibited by the Hon. John P. Kennedy, Secretary of the Navy, in the furtherance of scientific inquiry, and the declaration contained in his recent Annual Report, “that constant employment of ships and men in the promotion of valuable public interests—whether in defence of the honour of our flag, or the exploration of the field of discovery and opening of new channels of trade, or in the enlarging of the boundaries of science—will, he is convinced, be recognised both by the government and the people, as the true and proper vocation of the Navy, and as the means best calculated to nurse and strengthen that prompt and gallant devotion to duty, which is so essential to the character of accomplished officers, and so indispensable to the effectiveness of the naval organization.”

2. *Resolved*, That whilst this Society experiences the deepest interest in the scientific and other advantages to be derived from the various exploratory expeditions that have been recently instituted, and some of which are in progress,—its sympathies are especially enlisted in the success of one emanating from the philanthropy and munificence of two individuals of our country, and which is to be under the guidance of an enterprising and accomplished member of this Society, already celebrated for his adventurous energy in the same cause, and whose services have been especially enlisted by the distinguished lady whose persevering efforts for the discovery of her lost husband will transmit her name to all times as that of a model

of energetic and affectionate devotion;—and that it has been a source of gratification to this Society that the Secretary of the Navy should have sanctioned, with so much promptness, the new expedition, by granting the necessary permission to Dr. Kane to be on special service, as well as by the liberal and appropriate recommendation to Congress, that should it become requisite in the field of operations to which he is destined, “to provide him with means for the prosecution of scientific discovery beyond those which may be afforded by the department, and the liberality of the distinguished gentlemen who have assumed the charge of this expedition, that that body will respond to the suggestions of this necessity with a prompt appreciation and generous support of an undertaking so honourable to humanity and so useful to the enlargement of liberal science.”

On motion of Mr. Trego, it was resolved that the Secretary be instructed to transmit a copy of these resolutions to the Secretary of the Navy.

Dr. Kane recounted to the Society the reasons which induce him to believe that Sir John Franklin is still alive.

Mr. Fraley, from the Committee of Finance, exhibited the Minutes of the Committee, in which it was stated that they had examined the Report of the Treasurer, and found it correct. The following appropriations, for the service of the Society for the current fiscal year, were recommended by the Committee and directed by the Society:—

For the Proceedings,	-	-	-	-	\$100
„ Binding,	-	-	-	-	50
„ Journals	-	-	-	-	50
„ Hall,	-	-	-	-	150
„ General Account,	-	-	-	-	1100
					<hr/>
					\$1450
					<hr/>

Pending and new nominations were read.

Mr. Fraley, from the Committee on the Alteration of the Laws of the Society, reported progress, and stated that they would probably be able to report at the next stated meeting of the Society.

PROCEEDINGS
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V.

JANUARY—JUNE, 1853.

No. 49.

Stated Meeting, January 7.

Present, twenty-four members.

Judge KANE, Vice-President, in the Chair.

The result of the annual election for officers of the Society, held this day, was reported as follows:—

President.

Franklin Bache, M.D.

Vice-Presidents.

A. Dallas Bache, LL.D.

Hon. John K. Kane,

Robley Dunglison, M.D.

Secretaries.

John F. Frazer,

Charles B. Trego,

E. Otis Kendall,

Frederick Fraley.

Counsellors for Three Years.

Isaac Hays. M.D.

Charles D. Meigs, M.D.

Henry Vethake,

Jacob G. Morris.

Curators.

Franklin Peale,

John C. Cresson,

M. Fisher Longstreth.

Treasurer.

Charles B. Trego.

The chair was then taken by DR. FRANKLIN BACHE, the President elect.

Letters were read:—

From the Hon. John P. Kennedy, Secretary of the Navy, acknowledging the receipt of the resolutions passed at the last meeting; and expressing his gratification at the action of the Society in relation to the recommendations in his late report, with regard to the Expedition to the Arctic regions, and the furtherance of scientific inquiry:—

From Don Severiano Moraleda, dated Cadiz, Nov. 20, 1852, in relation to a donation for the Library of the Society, from the Director of the Hydrographic Department, at Madrid:—

From Don Jorge Lasso de la Vega, dated Direccion de Hidrografia, Madrid, October 19, 1852, announcing a donation of maps, charts and books, from that Department to the Society, with a catalogue of the same: and—

From the Royal Institution, dated Albemarle street, London, Nov. 30, 1852, accompanying a donation for the Library, and requesting that copies of the publications of the Society may be presented to the Royal Institution.

The following donations were announced:—

FOR THE LIBRARY.

Mémoires de l'Académie Impériale des Sciences de St. Petersburg.

VI. Série. Sciences Mathématiques, Physiques et Naturelles.

Tome VIII. Seconde Partie. Sciences Naturelles. Tome VI.

livraisons 3, 5, 6. St. Petersburg, 1849. 4to.—*From the Imperial Academy of Sciences, St. Petersburg.*

Mémoires présentés à l'Académie Impériale des Sciences de St. Petersburg, par divers Savants, et lus dans ses assemblées. Tome

VI. livr. 2, 3. St. Petersburg, 1848, 1849. 4to.—*From the*

same.

Stellarum Fixarum imprimis duplicium et multiplicium positiones

mediæ, pro epocha, 1830, 0. Auctore F. G. W. Struve. St.

Petersburg, 1852. Folio.—*From the same.*

Sur les Dimensions des Anneaux de Saturne: par M. Otto Struve.

St. Petersburg, 1852. 4to.—*From the same.*

Resultats des Operations Geodésiques de M. M. G. Fuss, Sawitsch et

Sabler; exécutées en 1836, 1837, dans la Province Caucasienne.

Par M. W. Struve. 4to.—*From the same.*

Exposé Historique des travaux exécutés jusqu'à la fin de l'année 1851, pour la Mesure de l'arc du Meridien entre Fuglænes, 70° 40', et Ismail, 45° 20'. Par W. Struve, Directeur de l'Observatoire Central de Russie. Suivi de deux Rapports de M. G. Lindhagen, Astronome de l'Observatoire Central, sur l'Expedition de Finnmarken, en 1850, et sur les Operations de Lapponie, exécutées en 1851. St. Petersburg, 1852. 4to.—*From the same.*

Messungen zur Bestimmung des Höhenunterschieds zwischen den Schwarzen und Caspischen Meere; von G. Fuss, Sawitsch und Sabler, 1836, 1837. St. Petersbourg, 1849. 4to.—*From the same.*

Transactions of the Royal Society of Edinburgh. Vol. XX. Part 3: for the session 1851, 1852. Edinburgh. 4to. Proceedings of the same. Session 1851, 1852. Vol. III. No. 42. Edinburgh. 8vo.—*From the Society.*

The Quarterly Journal of the Geological Society. No. 32. Vol. VIII. Part 4. Nov. 1, 1852. London. 8vo.—*From the Society.*

Bulletin de la Société de Géographie. IV. Série. Tomes II. III. Paris, 1851, 1852. 8vo.—*From the Society.*

Annales des Mines. V. Série. Tome I. 2 livraison de 1852. Paris. 8vo.—*From the Engineers of l'Ecole des Mines.*

The American Journal of Science and Arts. Second Series. Vol. XV. No. 43. Jan. 1853. New Haven. 8vo.—*From the Editors, Professors Silliman & Dana.*

On the Siliceous Bodies of the Chalk and other Formations, in reply to Mr. J. Toulmin Smith. By J. S. Bowerbank, F. R. S. G. S. &c. 1847.—Microscopical Observations on the Structure of the *Pterodactylus Giganteus* and other Fossil Animals. By the same, 1848:—On a Siliceous Zoophyte, *Alcyonites Parasiticum*. By the same, 1849:—On the Pterodactyles of the Chalk Formation. By the same, 1851. London. 8vo.—*From the Author.*

Address to the British Association: by Col. Edward Sabine, R. A. Treasurer and Vice-president of the Royal Society, 1852. 8vo.—*From the Author.*

A Discourse on the Life and Character of Daniel Webster. By H. A. Boardman, D.D. Philadelphia, 1852. 8vo.—*From the Author.*

Letter to Lord Mahon, being an Answer to his Letter addressed to

- the Editor of Washington's Writings. By Jared Sparks. Boston, 1852. 8vo.—*From the Author.*
- Report of Lieut. Col. Graham, on the subject of the Boundary Line between the United States and Mexico. August, 1852. Washington. 8vo.—*From the Author.*
- Conspectus Generum Avium: Auctore Carlo Luciano Bonaparte. Leyden, 1850. 8vo.—*From George Ord.*
- A Compilation of the Registers of the Army of the United States, from 1815 to 1837 inclusive. By William A. Gordon, of the War Department. Washington, 1837. 8vo.—*From Major Hartman Bache.*
- Cavalry Tactics. 3 vols. Printed by order of the War Department. Washington, 1841.—*From the Adjutant General, United States Army.*
- Instruction for Heavy Artillery: prepared by a Board of Officers for the use of the Army of the United States. Washington, 1851.—Instruction for Mountain Artillery: by a Board of Army Officers. Washington, 1851.—Instruction for Field Artillery, Horse and Foot; compiled by a Board of Artillery Officers. Baltimore, 1845.—Same; translated from the French, and arranged for the Service of the United States, by Robert Anderson, Captain United States Army. Philadelphia, 1839.—The Sword Exercise, arranged for Military Instruction, by Brevet Major Henry C. Wayne, United States Army. Washington, 1850.—Manual of Bayonet Exercise; prepared for the use of the Army of the United States. By George B. McClellan, Brevet Captain United States Army. Philadelphia, 1852.—School of Cavalry: or a System of Organization, Instruction, and Manœuvres, proposed for the Cavalry of the United States: by William Theobald Wolfe Tone, Lieutenant United States Artillery. Georgetown, D. C. 1824.—*From the same.*
- Regulations for the Uniform and Dress of the Army of the United States. June, 1851. From the original text and drawings in the War Department. Philadelphia, 1851. Folio.—*From the same.*
- The Practice of Courts Martial. By Alexander Macomb, Major General of the Army of the United States. New York, 1841. 8vo.—*From the same.*
- Hints on the Medical Examination of Recruits for the Army: and on the Discharge of Soldiers from Service on Surgeon's Certificate. Adapted to the Service of the United States. By Thomas Hen-

derson, M. D. Assistant Surgeon United States Army. Philadelphia, 1840. 8vo.—*From the same.*

Prof. Frazer, from the Committee on Dr. Kane's proposed Expedition to the Arctic regions, reported a Memorial to Congress on that subject, which the Committee recommend for adoption by the Society. The Memorial was read, considered and adopted, and was ordered to be signed by the proper officers and forwarded to both Houses of Congress.

The Rev. Dr. Boardman exhibited to the Society a specimen of *rock-crystal*, from the Alps, of unusual clearness and beauty. It is cut and polished in a graceful form and manner. Length, $4\frac{1}{2}$ inches; diameter, $2\frac{1}{2}$ by 2 inches.

Judge Kane referred to the experimental trial of the caloric-engine vessel, recently made at New York: He had been assured by gentlemen who were on board the vessel, a clipper-built ship of about 2000 tons burthen, that the engine, on a first trial, and under unfavourable circumstances, propelled the vessel at a rate of more than six miles per hour: the maximum speed, with the wind, was fifteen miles per hour. The amount of fuel consumed during the trip was between one-quarter and one-fifth of that required for a steam-engine of the same power; and a great advantage also results from the lesser space occupied by the caloric-engine, and the greater safety from fire.

The Judge remarked that, if there was no mistake in all this, it would seem that the time anticipated by scientific mechanics had now come, when the steam-engine would become one of the things that *were*.

Mr. Justice said that the beautiful specimen of rock-crystal, shown this evening, reminded him of a phenomenon recently observed by him in his microscopical observations—and asked for information on the subject. A portion of the ordinary silvery solution was evaporated, and the crystals, while on the *hot* slide of the microscope, exhibited no evidence of polarization of light; but on cooling the ordinary display of beautiful colours appeared.

Mr. Trego, from the Committee of Publication, presented

the Annual Report of that Committee, together with a statement of their Treasurer's Accounts, which were read.

Mr. Fraley, from the Committee appointed to consider alterations in the Laws of the Society, presented the following Report:—

The Committee appointed to consider and report whether any, and if any, what alterations or amendments should be made in the Laws of the Society, have attended to that duty, and respectfully present, herewith, such amendments and alterations as in their judgment will be found beneficial: And in order that the same may be properly and conveniently placed before the members for consideration, they recommend the adoption of the following resolutions:—

Resolved, That the Laws of the Society, as proposed to be altered and amended by the Report of the Committee, be printed under their direction, for the use of the members of the Society.

Resolved, That the proposed amendments shall be considered by the Society, as in committee of the whole, at the next stated meeting; and that the Laws, as they may be proposed for adoption by the Report of the Committee of the Whole, shall be fairly written out for the final action of the Society thereon, agreeably to the provisions of the existing laws.

The present reading of the reported amendments was, on motion, dispensed with,—and the resolutions were adopted.

Dr. Boardman inquired concerning a catalogue of the Society's library,—and explanation was made upon the subject by the President and the Librarian.

On motion of Judge Kane, a Committee was appointed to consider and report upon some plan for the better accommodation and more convenient arrangement of the Society's Library:—the Committee consists of Judge Kane, Mr. Trego and Dr. Boardman.

Stated Meeting, January 21.

Present, twenty-three members.

Dr. FRANKLIN BACHE, President, in the Chair.

Letters were read:—

From Baron Joseph Von Hammer Purgstall, dated Vienna, 7th Nov. 1851, accompanying a donation for the Library, and in relation to an exchange of the publications of the Imperial Academy of Sciences at Vienna, and those of this Society: and—

From the Albany Institute, dated Albany, Jan. 11, 1853, announcing a donation for the Library, and acknowledging the receipt of certain Nos. of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Archives du Muséum d'Histoire Naturelle: publiées par les Professeurs Administrateurs de cet Etablissement. Tome V. liv. 4. Tome VI. liv. 1, 2. Paris. 4to.—*From the Museum.*

Catalogue Méthodique de la Collection des Mammifères;—de la Collection des Oiseaux, et des Collections annexées: par le Prof. Administrateur, M. Isidore Geoffroy de St. Hilaire, et les Aides Naturalistes, M. M. Florent Prevost et Pucheran. I. Partie. Paris, 1851. 8vo.—Catalogue Méthodique de la Collection des Reptiles, 2e livr. par le Prof. Administrateur, M. C. Dumeril, &c. Aide Naturaliste, M. Aug. Dumeril, &c. Paris, 1851. 8vo.—*From the same.*

Jahrbücher der Literatur. Bande 125 to 128 inclusive. Jan. Dec. 1849. Vienna. 8vo.—*From the Baron J. Von Hammer Purgstall.*

Rede des Präsidenten der Kaiserlichen Akad. der Wissenschaften, Freiherrn Von Hammer Purgstall, bei der feierlichen Eröffnung derselben am 2 Februar. 1848. 8vo.—*From the same.*

Journal of the Academy of Natural Sciences of Philadelphia. New Series. Vol. II. Part 3. Philadelphia. 4to.—*From the Academy.*

Transactions of the Albany Institute. Vol. II. Albany, 1833, 1852. 8vo.—*From the Institute.*

- Collections of the Historical Society of Pennsylvania. Vol. I. No. 4. Nov. 1852. Philadelphia. 8vo.—*From the Society.*
- Journal of the Franklin Institute. Third Series. Vol. XXV. No. 1. January, 1853. Philadelphia. 8vo.—*From the Institute.*
- The American Journal of the Medical Sciences. No. XLIX. New Series. January, 1853. Philadelphia. 8vo.—*From Dr. Hays, Editor.*
- The Medical News and Library. Vol. XI. No. 121. January, 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*
- Introductory Lecture to the Course of Chemistry, delivered in Jefferson Medical College, October 13, 1852. By Franklin Bache, M.D. Philadelphia. 8vo.—*From the Author.*
- New Varieties of Gold and Silver Coins, Counterfeit Coins and Bullion: with Mint Values. Second Edition. By J. R. Eckfeldt and W. E. Dubois, Assayers of the Mint of the United States. To which is added a Brief Account of the Collection of Coins belonging to the Mint. Second Edition, enlarged: by W. E. Dubois. New York, 1851. 8vo.—*From the Author.*
- The Astronomical Journal. No. 51. Vol. III. No. 3. January 6, 1852. Cambridge. 8vo.—*From Dr. B. A. Gould, jr. Editor.*

Dr. Kane announced to the Society that a communication has been received from the British Consul General, on the part of Sir Francis Beaufort, of the Hydrographic Office, announcing the wish of the Admiralty to co-operate, by suggestive and other material, in the object of the proposed American Expedition to the Arctic regions,—and stated that the preparations for the expedition are in favourable train.

Mr. Trego was re-elected Librarian.

The following Standing Committees were appointed:

Finance; Mr. Wagner, Mr. Fraley, Mr. Justice.

Hall; Judge Kane, Mr. F. Peale, Mr. Justice.

Library; Dr. Hays, Mr. Campbell, Mr. Ord.

Publication; Mr. Trego, Dr. Elwyn, Prof. Frazer.

The catalogue of surviving members of the Society was read, from which it appears that the number on the list, on the first of January, 1853, was 363;—of whom are resident in the United States, 261,—and in foreign countries, 102.

The Society then proceeded to ballot for candidates for membership.

The letters read this evening from the Baron Von Hammer Purgstall, and from the Albany Institute, relative to an exchange of publications with this Society, were referred to the Librarian, with power to act.

The consideration of the Amendments to the Laws of the Society, reported from the Committee on that subject, was, on motion of Judge Kane, postponed to the next stated meeting.

All other business having been concluded, the ballot boxes were opened, and the following named gentlemen were declared by the presiding officer to be duly elected members of the Society:

A. L. CRELLE, of Berlin.

C. F. GAUSS, of Göttingen.

AUGUSTIN CAUCHY, of Paris.

J. LIOUVILLE, of Paris.

Dr. J. G. FLÜGEL, U. S. Consul at Leipsic.

Prof. O. M. MITCHELL, of Cincinnati.

ROBERT M. BIRD, M.D. of Philadelphia.

JOHN L. LECONTE, M.D. of Philadelphia.

EDWARD E. LAW, of Philadelphia.

Capt. W. F. LYNCH, U. S. Navy.

HON. JOHN P. KENNEDY, Secretary of the Navy.

Major ALFRED MORDECAI, U. S. Army.

Stated Meeting, February 4.

Present, sixteen members.

Judge KANE, Vice-President, in the Chair.

Mr. Edward E. Law, Dr. John L. Leconte, and Mr. John Cassin, recently elected members, were presented to the presiding officer and took their seats.

Letters were read:—

From Major Alfred Mordecai, dated Washington Arsenal,

Jan. 29, 1853; from Edward E. Law, dated Walnut street, 29th Jan. 1853; from John L. Leconte, dated Philadelphia, Feb. 2, 1853,—severally acknowledging the receipt of notice of their election as members of the Society:—

From the Connecticut Historical Society, dated Hartford, Feb. 2, 1853; and from the Academy of Natural Sciences of Philadelphia, dated Feb. 2, 1853, returning thanks for the Proceedings of this Society, No. 48:—

From the Proprietors of the Bowditch Library, dated Boston, Jan. 29, 1853, acknowledging the receipt of the Transactions of this Society, Vol. X. Part 2; and of Nos. 44, 45, 46 of the Proceedings: and—

From Mr. George Parish, dated Ogdensburg, N. Y. 21st Jan. 1853, informing the Society, on the part of the heirs of the late David Parish, that the Society is welcome to remain in possession of the Collection of Coins and Medals deposited with them by said David Parish, with the exception of two pieces, which it is desired should be returned to George Parish.

The following donations were announced:—

FOR THE LIBRARY.

Biblioteca Maritima Española; obra postuma del Excmo. Señor Don Martin Fernandez de Navarrete, &c. &c. 2 vols. 8vo. Madrid, 1852.—*From the Hydrographic Department at Madrid.*

Diccionario Marino: Español-Ingles, y Ingles-Español; para el uso del Colegio Naval. Por Don Juan José Martinez de Espinosa y Tacon, Comandante General, &c. &c. 2 vols. 8vo. Madrid, 1849.—*From the same.*

Coleccion Completa de Tablas, para los usos de la Navegacion y Astronomia Nautica: por el Capitan Don José de Mendoza y Rios, &c. &c. Madrid, 1850. 4to.—*From the same.*

Esplicacion de las Tablas de Navegacion y Astronomia Nautica de Don José Mendoza y Rios. Por Don José Sanchez y Cerquero. Madrid, 1851. 4to.—*From the same.*

Almanaque Nautico, y Ephemerides Astronomicas, para los años de 1853 y 1854. Madrid. 8vo.—*From the same.*

Combate de Trafalgar. Vindicacion de la Armada Española: Por Don Manuel Marliani, Ex-Senador del Reino. Madrid, 1850. 8vo.—*From the same.*

- Ordenanzas de Pesca, para los Provincias de Pontevedra y la Coruña, &c. Madrid, 1850. 4to.—*From the same.*
- Catalogo de las Cartas, Planos, &c. pertenecientes a la Direccion de Hidrografia de Madrid. No. 14. 8vo.—*From the same.*
- Charts and Maps of the Islands of Teneriffè, Fuerteventura, Lanzarote; the Western Coast of Africa, from Cape St. Paul to Formosa; the Bay of San Juan de Luz; Ria de Vigo; the Ports of Holmes' Hole, Zebu, Laguimanoc and Busainga, Batan, and the Bay of Nin and Mandao.—*From the same.*
- Monthly Notices of the Royal Astronomical Society. Vol. XII. No. 4. London. 8vo.—*From the Society.*
- Proceedings of the Boston Society of Natural History. Nov. 1852. Boston. 8vo.—*From the Society.*
- Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. VI. No. 6. Nov. Dec. 1852. Philadelphia. 8vo.—*From the Academy.*
- Report of a Geological Survey of Wisconsin, Iowa and Minnesota; and incidentally of a portion of Nebraska Territory; made under instructions from the United States Treasury Department. By David Dale Owen, United States Geologist. With a volume of Illustrations. Philadelphia, 1852. 4to.—*From the Hon. H. S. Geyer, U. S. Senate.*
- Plans for the Artillery of the United States: drawn and engraved under the direction of Major Alfred Mordecai, of the Ordnance Department. Parts 1 to 13, inclusive.—*From Col. H. K. Craig, U. S. Ordnance Department.*
- Arte de la Lengua Quichua: por el P. Diego de Torres Rubio, de la Compania de Jesus. Lima, 1700. 12mo.—*From Dr. Ruschenberger.*
- Reprint of the Original Letters from Washington to Joseph Reed, during the American Revolution, referred to in the Pamphlets of Lord Mahon and Mr. Sparks. By William B. Reed. Philadelphia, 1852. 8vo.—*From W. B. Reed, Esq.*
- A Tribute to the Memory of Peter Collinson;—with some notice of Dr. Darlington's Memorials of John Bartram and Humphrey Marshall. Second Edition. By William H. Dillingham. Philadelphia, 1852. 8vo.—*From the Author.*
- Report of the Committee of the House of Representatives of the United States, to whom was referred the Memorial of Dr. W. T. G. Morton, asking remuneration for the Ether Discovery. Washington, 1852. 8vo.—*Donor unknown.*

The Astronomical Journal, No. 52: Cambridge, Jan. 27, 1852.
4to.—*From Dr. B. A. Gould, jr., Editor.*

The Plough, the Loom and the Anvil. Vol. V. No. 6. Dec. 1852.
New York and Philadelphia. 8vo.—*From F. G. Skinner, Editor.*

Prof. Frazer announced the death of Sears C. Walker, a member of this Society, on the 30th inst. at Cincinnati, in the 48th year of his age.

Remarks upon the scientific labours of Mr. Walker were made by Prof. Frazer and Mr. Justice.

On motion, Prof. Frazer was appointed to prepare an obituary notice of the deceased member.

Mr. Justice offered, for the inspection of the members, a "Crystallotype" of the Moon, taken by John A. Whipple, of Boston, through the great refracting telescope at Cambridge, and presented to Mr. Justice by Marcus A. Root, daguerreotypist of this city.

This picture of the moon, small as it is, being only 5 inches long, by $2\frac{1}{2}$ broad, is so perfectly distinct that all the well known localities on the line of partial illumination, where the shadows are more fully projected, can be easily recognised.

In tracing this line from north to south, we notice on the dark plain of Mare Imbrium, the fully developed ring-mountains of Archimedes, Aristillus and Autolycus, with the whole group lying within the curve of the Apennines, whose dark shadows are contrasted with the enlightened side of the range. Continuing on nearly the same meridian, south of the equator, the large circular expanse of Ptolemy, united to Alphons, and Arzachel with its central hills, are all finely indicated; while Hipparchus, Thebit, and the surrounding pit-formations which exist throughout these mountain regions, form almost as beautiful a display as when viewed through the telescope. The effect is much increased when the picture is viewed through a low magnifying power.

When we consider the small number of persons who have the opportunity of examining the moon through a good telescope, we are able more fully to appreciate an art which can thus so graphically transfer the likeness of this planet from the heavens to a parlour table, for the convenience of our investigations in the study of selenography.

Mr. Dubois laid before the Society a specimen of Australian gold, in grains, from Mount Alexander.

Until within a few months, no specimen of gold from Australia could be obtained by the mint, except by sending to the London market. Recently, however, there have been four parcels brought hither for coinage, amounting to about \$14,000. The sample herewith shown is from one of those parcels, and is from the well-known mining district of *Mount Alexander*, about 70 miles north of Port Philip, and 500 miles south-west from Sydney. The grains are quite different in shape from those of California, being more globular or shot-like; and the proportion of accompanying oxide of iron, and extraneous substances, is found to be less by the loss in melting. That loss scarcely exceeds $1\frac{1}{2}$ per cent. on the average, while the best shipments of gold from California will average double that loss. There is also a conspicuous difference in the amount of silver alloy present. The particles from Australia varied from 960 to 966 thousandths in fineness; the California gold may be said to average 875 to 885; making a difference in favour of the Australian gold, of about ten per cent. in value.

The value of the latter, in the unmelted grains, may be stated at \$19.67 per ounce; after melting, twenty dollars per ounce, within a few cents.

Mr. Fraley mentioned, in connection with this subject, that a workman in the chemical manufactory of Mr. Lennig, in this city, had obtained gold by washing from the sand on the bank of the Delaware river, near Bridesburg, about five miles above Philadelphia. The gold thus obtained, by a day's labour, was worth about twenty-five cents.

On motion of Mr. Trego, it was resolved that the Secretary be instructed to communicate to Mr. George Parish, the thanks of the Society for the liberality of his family in relinquishing their claim to the collection of coins and medals deposited with the Society by the late David Parish, in the year 1816;—and that he be directed to return to Mr. George Parish, the two medals mentioned in his letter read this evening, which the family wish to retain.

Mr. Trego, as Reporter, presented No. 48 of the Proceedings of the Society, recently published.

The Society then proceeded to the stated business of the meeting,—the consideration of the proposed amendments to the Laws of the Society,—and resolved itself into a committee of the whole, Judge Kane in the chair, for the purpose of considering the said amendments.

After some time the Committee rose, and the Chairman reported the draft submitted to them, with sundry amendments, which report was agreed to;—and it was then ordered that the further consideration of the amendments be postponed until the next stated meeting of the Society.

Stated Meeting, February 18.

Present, seventeen members.

JUDGE KANE, Vice-President, in the Chair.

Letters were read:—

From the Hon. John P. Kennedy, dated Washington, Feb. 5, 1853, acknowledging the receipt of notice of his election to membership of this Society:—

From the Royal Academy of Sciences at Stockholm, dated Oct. 30, 1852; and from the Royal Society of Sciences at Upsal, without date,—accompanying donations to this Society,—and acknowledging the receipt of Transactions and Proceedings:—

From the Connecticut Historical Society, dated Hartford, August 14, 1852; from Col. H. K. Craig, dated Ordnance Office, Washington, Feb. 9, 1853; from Wm. B. Reed, Esq. at the request of Lord Mahon, dated Feb. 16;—announcing donations for the Library:—

From the American Antiquarian Society, dated Worcester, Mass. Feb. 8, 1853; and from the New Jersey Historical Society, dated Newark, Feb. 12, 1853,—returning thanks for No. 48 of the Proceedings: and—

From Mr. George Parish, dated Ogdensburg, N. Y. 13th Feb. 1853, acknowledging the receipt of the two medals forwarded to him by the Society, as directed at the last meeting.

The following donations were announced :—

FOR THE LIBRARY.

- Acta Regiæ Societatis Scientiarum Upsaliensis. 3d Series. Vol. I.
Part 1, 1851. Upsal. 4to.—*From the Society.*
- Kongl. Vetenskaps—Akademiens Handlingar, för år 1850. Afd. 1,
2. Stockholm, 1851.—8vo.—*From the Royal Academy of Sciences at Stockholm.*
- Ofversigt af Kongl. Vetenskaps—Akademiens Förhandlingar, 1851.
Stockholm. 8vo.—*From the same.*
- Arsberättelse om Framstegen i Kemi, under år 1849; af L. F. Svanberg.
,, om Botaniska Arbeten, &c. för år 1849; af J. E. Wikström.
,, om Framstegen i Insecternas, &c. för år 1849, 1850; af C. H. Boheman.
,, om Technologiens Framsteg, 1847, 1848, 1849; af J. E. Pasch.
- Berättelse om Framstegen Molluskernas, &c. under åren 1845—1849; af S. Loven.
,, om Framstegen i Fysik, under år 1850; af E. Edlund.—*From the same.*
- Mittlere Oerter von 12,000 Fix—Sternen, für den Anfang von 1836, abgeleitet aus den Beobachtungen auf der Hamburger Sternwarte, von Carl Rümker. 3 Abth. die 13 bis 18 stunde enthaltend: 4 Abth. erste hälfte, 18 bis 21 stunde: 2 hälfte, 22 und 23 stunde elthaltend. Hamburg, 1846, 1849, 1852. 4to.—*From the Author.*
- Verhandelingen der Eerste Klasse van het Koninklyk—Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoonen Kunsten te Amsterdam. Derde Reeks. 5 Deel. Amsterdam, 1852. 4to.—*From the Royal Netherlands Institute of Science, &c.*
- Tijdschrift voor de Wis—en Natuurkundige Wetenschappen, uitgegeven door de Eerste Klasse van het Koninklyk Nederlandsche Instituut, &c. V. Deel. Afl. 1, 2, 3. Amsterdam, 1851–2. 8vo.—*From the same.*
- Jaarboek van het Koninklyk Nederlandsche Instituut, &c. voor 1851. Amsterdam. 8vo.—*From the same.*
- Memorie della Reale Academia delle Scienze di Torino. Serie Se-

- conda. Tomo XII. Torino, 1852. 4to.—*From the Royal Academy of Sciences at Turin.*
- Journal of the Royal Geographical Society of London. Vol. XXII. London, 1852. 8vo.—*From the Society.*
- Notices of the Meetings of the Members of the Royal Institution of Great Britain: Part 2. July, 1851—July, 1852. And List of the Members, Officers, &c. of the Royal Institution, with the Report of the Visitors, for the year 1851. London. 8vo.—*From the Royal Institution.*
- Monthly Notices of the Royal Astronomical Society. Vol. XIII. No. 1. Nov. 12, 1852. London. 8vo.—*From the Society.*
- Quarterly Journal of the Chemical Society. No. XIX. Oct. 1852. London. 8vo.—*From the Society.*
- Proceedings of the Boston Society of Natural History. Dec. 1852. Boston. 8vo.—*From the Society.*
- The Public Records of the Colony of Connecticut, from 1636 to 1677. 2 vols. 8vo. Transcribed and published in accordance with a Resolution of the General Assembly. By J. Hammond Trumbull, A.M. Cor. Sec. Conn. Hist. Society, &c. &c. Hartford, 1850, 1852.—*From the Connecticut Historical Society.*
- Tribute to Gallaudet: A Discourse in commemoration of the Life, Character and Services of the Rev. Thomas H. Gallaudet, LL.D. delivered before the citizens of Hartford, Jan. 7, 1852: With an Appendix, containing a History of Deaf Mute Instruction and Institutions,—and other Documents. By Henry Barnard. Hartford. 1852. 8vo.—*From the same.*
- Smithsonian Contributions to Knowledge.—Memoir on the Extinct Species of American Ox. By Joseph Leidy, M.D. Washington, 1852. 4to.—*From the Smithsonian Institution.*
- Journal of the Franklin Institute. Third Series. Vol. XXV. No 2. Feb. 1853. Philadelphia. 8vo.—*From the Institute.*
- Letter to Jared Sparks, Esq. being a Rejoinder to his "Reply to the Strictures of Lord Mahon and others, on the mode of editing the Writings of Washington." By Lord Mahon. London, 1852. 8vo.—*From the Author.*
- Artillery for the U. S. Land Service, as devised and arranged by the Ordnance Board. With Plates. Prepared under the instructions of the Board of Ordnance; by Brevet Major Alfred Mordecai, of the Ordnance Department. Washington, 1849.—*From Col. H. K. Craig, U. S. Army.*

Official Army Register, for 1853. Published by order of the Secretary of War. Washington, 1853.—*From Major Hartman Bache.*

The Medical News and Library. Vol. XI. No. 122. Feb. 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*

Eighteenth Annual Report of the Trustees of the Philadelphia Gas Works, to the Select and Common Councils of the City of Philadelphia; Jan. 28, 1853. 8vo.—*From F. Fraley, Esq.*

The Astronomical Journal, No. 53. Feb. 11, 1853. Cambridge. 4to.—*From Dr. B. A. Gould, jr., Editor.*

Mr. Trego announced the death of Mr. William Peter, a member of this Society, who died on the 6th inst., in the 64th year of his age:—And, on motion, Mr. Job R. Tyson was appointed to prepare an obituary notice of Mr. Peter.

The Society then proceeded to the stated business of the meeting, which was the consideration of the amendments proposed to the Laws of the Society,—the requisite notice to this effect having been given in the advertisements of the meeting.

A paper was read from the President of the Society, proposing amendments to the amendments.

A motion was made that the amendments be recommitted to the committee, which was not agreed to.

A motion was then made, that the further consideration of the subject be postponed to the next stated meeting of the Society, and that due notice to that effect be given by advertisement,—which motion was agreed to.

Stated Meeting, March 4.

Present, thirteen members.

DR. FRANKLIN BACHE, President, in the Chair.

Letters were read:—

From the Secretary of l'Ecole des Mines, dated Paris, 2d Oct. 1852, accompanying a donation to this Society, and acknowledging the receipt of several numbers of the Proceedings:—

From the Royal Geographical Society of London, dated Waterloo Place, Oct. 14, 1852, returning thanks for No. 47 of the Proceedings: and—

From the Historical Society of Pennsylvania, dated Feb. 16, 1853, acknowledging the receipt of No. 48 of the Proceedings of this Society.

The following donations were announced:—

FOR THE LIBRARY.

Flora Batava, of Afbeelding en Beschrijving van Nederlandsche Gewassen. Afl. 168–172, inclusive. Amsterdam. 4to.—*From the King of the Netherlands.*

Annales des Mines. V. Série. Tome I. 3 livr. de 1852. Paris. 8vo.—*From the Engineers of l'Ecole des Mines.*

Quarterly Journal of the Chemical Society. No. XX. Jan. 1, 1853. London. 8vo.—*From the Society.*

Sixth Annual Report of the Board of Regents of the Smithsonian Institution, to the Senate and House of Representatives, showing the operations, expenditures and condition of the Institution during the year 1851; and the Proceedings of the Board of Regents, up to date. Washington, 1852. 8vo.—*From the Institution.*

Smithsonian Report:—On Recent Improvements in the Chemical Arts. By Prof. James C. Booth and Campbell Morfit. Washington, 1852. 8vo.—*From the same.*

Report on the Discipline and Management of the Convict Prisons, and Disposal of Convicts, 1851; with Notes on the Construction of Prisons, Treatment and Disposal of Juvenile Offenders, &c. &c. By Lieut. Col. Jebb, C. B. Surveyor General of Prisons, Chairman of the Directors, &c. London, 1852. 8vo.—*From Hon. J. R. Ingersoll.*

Information concerning the History, Condition and Prospects of the Indian Tribes of the United States: collected and prepared under the direction of the Bureau of Indian affairs. By Henry R. Schoolcraft, LL.D. Illustrated by S. Eastman, Capt. U. S. Army. Published by authority of Congress. Part III. Philadelphia, 1853. 4to.—*From Luke Lea, Esq. Commissioner of Indian Affairs.*

Eighteenth Annual Report of the Board of Directors of the Young

Men's Mercantile Library Association, of Cincinnati: Jan. 4, 1853. Cincinnati. 8vo.—*From the Association.*

Report of the Pennsylvania Hospital for the Insane, for the year 1852.

By Thomas S. Kirkbride, M.D. Physician to the Institution. Philadelphia. 8vo.—*From the Author.*

A Sermon preached to the Congregation at the Essex street Church, Oct. 31, 1852, the Sabbath after the interment of the Hon. Daniel Webster. By Nehemiah Adams, D.D. Pastor of the Essex street Church, Boston. 2d Edition. Boston. 8vo.—*From Geo. C. Rand.*

The American Journal of Science and Arts. Second Series. Vol. XV. No. 44. March, 1853. New Haven. 8vo.—*From Prof. Silliman & Dana, Editors.*

The Plough, the Loom and the Anvil. Vol. VI. No. 2. Feb. 1853. New York and Philadelphia. 8vo.—*From F. G. Skinner, Editor.*

Mr. Trego announced the decease of Mr. Thomas Gilpin, a member of this Society, who died on the 3d inst. aged 77.

The Society then proceeded to the stated business of the meeting,—the further consideration of the proposed amendments to the Laws of the Society. The amendments, as reported from the committee of the whole, were read, and further amended,—and the amendments ordered to be reported to the next meeting of the Society, for further action,—of which due notice is to be given to the members.

Stated Meeting, March 18.

Present, thirty-one members.

Dr. FRANKLIN BACHE, President, in the Chair.

Dr. John Neill and Dr. John J. Reese, recently elected members, were presented and took their seats.

A letter was read from the Secretary of l'Ecole des Mines, dated Paris, 17th Nov. 1852, accompanying a donation for the Library of the Society.

The following donations were announced:—

FOR THE LIBRARY.

- Monthly Notices of the Royal Astronomical Society: Vol. XIII. No. 2. Dec. 10, 1853. London. 8vo.—*From the Society.*
- Annales des Mines. V. Série. Tome II. 4 livr. de 1852. Paris. 8vo.—*From the Engineers of l'Ecole des Mines.*
- Minutes of the Provincial Council of Pennsylvania, from the organization to the termination of the Proprietary Government: Published by the State. 10 vols. 8vo. Harrisburg, 1852.—*From the State of Pennsylvania.*
- The Spirit of Rhode Island History: A Discourse delivered before the Rhode Island Historical Society, Jan. 17, 1853. By the Hon. Samuel Greene Arnold, Governor of Rhode Island. Providence. 8vo.—*From the R. I. Historical Society.*
- Sixth Annual Report of the Regents of the University of the State of New York, on the State Cabinet of Natural History, and the Historical and Antiquarian Collection annexed thereto. Jan. 22, 1853:—And
- Annual Report of the Trustees of the State Library of the State of New York; transmitted to the Legislature, Feb. 13, 1853. Albany. 8vo.—*From the Regents of the University of the State of New York.*
- Journal of the Franklin Institute. Third Series. Vol. XXV. No. 3. March, 1853. Philadelphia. 8vo.—*From the Institute.*
- A Discourse on the Life, Character and Services of Daniel Drake, M. D., delivered, by request, before the Faculty and Medical Students of the University of Louisville. Jan. 7, 1853. By S. D. Gross, M.D. Louisville. 8vo.—*From the Author.*
- A Biographical Memoir of Samuel George Morton, M.D. Prepared by appointment of the College of Physicians of Philadelphia, and read before that body, Nov. 3, 1852. By George B. Wood, M.D. President of the College. Philadelphia. 8vo.—*From the Author.*
- Eulogy on the Character and Services of the late Daniel Webster:—pronounced at the request of the Select and Common Councils of the City of Philadelphia, Jan. 18, 1853. By William H. Allen, LL.D. President of the Girard College for Orphans. Philadelphia. 8vo.—*From the Author.*
- Report of a Committee in the Senate of the United States, on the

- Discovery of Anæsthetic Agents. Mr. Walker, Chairman. Washington, Feb. 19, 1853. 8vo.—*From Hon. G. N. Fitch.*
- The Medical News and Library. Vol. XI. No. 123. March, 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*
- The Plough, the Loom and the Anvil. Vol. VI. No. 3. March, 1853. New York and Philadelphia. 8vo.—*From F. G. Skinner, Editor.*
- Description of the Remains of Extinct Mammalia and Chelonia, from Nebraska Territory, collected during the Geological Survey under Dr. D. D. Owen. By Joseph Leidy, M.D. of Philadelphia. 1852. 4to.—*From the Author.*
- On the Extinct Species of American Ox. (Smithsonian Contributions to Knowledge, Vol. V.) Description of an Extinct Species of American Lion: *Felis atrox*.—A Memoir on the Extinct Dicotylinae of America. (Trans. Am. Philos. Society, Vol. X.) By Joseph Leidy, M.D. of Philadelphia, 1852. 4to.—*From the same.*

Prof. Frazer announced the death of Dr. William E. Horner, a member of this Society, who died on the 13th inst., aged 60 years.

On motion of Mr. Cresson, Judge Kane was appointed to prepare an obituary notice of Mr. Thomas Gilpin, whose death was announced at last meeting:—And,

On motion of Dr. Harris, Prof. Samuel Jackson, M.D., was appointed to prepare an obituary notice of Dr. Horner.

Dr. Leconte presented a paper for the Transactions of the Society, "On the Classification of the Carabidæ of the United States," which was referred to Prof. Haldeman, Dr. Ruschenberger and Dr. Leidy, as a committee.

Dr. Kane called the attention of the Society to the preparations made for the proposed Expedition to the Arctic regions, which is about to set out under his command. Dr. K. described the peculiar provisions for the subsistence of the men; the sledges intended for their use in passing over the ice, &c., and laid before the Society papers in relation to the outfit of the expedition, consisting of letters from Sir John Richardson, Captain Ross, Admiral Parry, Col. Sabine and others.

On motion of Mr. Fraley, it was resolved that application be made by the Society to the Select and Common Councils of the City, and to the Directors of the Girard College, for the loan of such astronomical and magnetical instruments in their

possession, as may be useful in the observations intended to be made during Dr. Kane's proposed expedition to the Arctic regions.

The Society then proceeded to the consideration of the amendments of the Laws, as agreed to at the last meeting;—and said amendments, and the Laws as so amended, were finally adopted without dissent.

The following minute and resolution were offered by Judge Kane, and adopted:—

It having been announced that Dr. Franklin Bache, the President of the Society, and the Hon. Henry D. Gilpin and Dr. George B. Wood, members thereof, are about to visit Europe, with the purpose of making themselves familiar with the Scientific and Literary Institutions of Great Britain and the nations of the Continent;—it was

Resolved, That those gentlemen be severally requested to communicate, on behalf of the Society, with such of its foreign correspondents as they may have opportunity to visit;—and that the Secretary be instructed to invite for them such aid as may conduce to the attainment of the object they have in view.

Stated Meeting, April 1.

Present, twelve members.

Dr. FRANKLIN BACHE, President, in the Chair.

Letters were read:—

From B. Augustin Cauchy, dated Paris, 11th March, 1853, acknowledging the receipt of notice of his election as a member of this Society: and—

From the Geological Society of London, dated Somerset House, 4th Nov. 1852, returning thanks for No. 47 of the Proceedings.

The following donations were announced:—

FOR THE LIBRARY.

Quarterly Journal of the Geological Society: Vol. IX. Part 1. No. 33. Feb. 1, 1853. London. 8vo.—*From the Society.*

Monthly Notices of the Royal Astronomical Society. Vol. XIII. No. 3. Jan. 14, 1853. London. 8vo.—*From the Society.*

The Mississippi and Ohio Rivers:—Containing plans for the protection of the Delta from inundation; and investigations of the practicability and cost of improving the navigation of the Ohio and other rivers by means of reservoirs:—With an Appendix on the Bars at the mouths of the Mississippi. By Charles Ellet, Civil Engineer. Philadelphia, 1853. 8vo.—*From the Author.*

Message from the President of the United States, communicating a Report of Lieut. Meigs, with surveys, plans and estimates for supplying the cities of Washington and Georgetown with water. Feb. 22, 1853. Washington. 8vo.—*From Lieut. Meigs.*

Third Annual Report of the President and Directors of the Bellefontaine and Indiana Railroad Company, to the Stockholders. Jan. 12, 1853. Cleveland, O.—8vo.—*From W. Milnor Roberts, Esq. Engineer.*

Maps of Lake Erie, and of the West End of Lake Erie and Detroit river; from Surveys under the direction of the Topographical Bureau of the War Department. Washington, 1852.—*From Major Hartman Bache, U. S. A.*

Fifth Annual Report of the Board of Managers of the House of Refuge, with an Appendix. Philadelphia, 1853. 8vo.—*From James J. Barclay, Esq.*

The Astronomical Journal, No. 54. (Vol. III. No. 6.) March 15, 1853. Cambridge. 4to.—*From Dr. B. A. Gould, jr. Editor.*

The committee to which was referred Dr. Leconte's Paper on the Classification of the Carabidæ of the United States, made report, recommending its publication in the Transactions, which was ordered accordingly.

On motion of Prof. Frazer, he was excused from preparing a necrological notice of Sears C. Walker, deceased,—and A. Dallas Bache, LL.D., was requested to prepare such notice.

Dr. Boyé called the attention of the Society to the uncertainty of preserving papers, documents and coins in corner stones of buildings. On recently opening the corner stone of the present High School building of this city, erected 15½ years ago, in order to deposit its contents in the new building about to be erected, the papers &c., which had been deposited in a sealed glass jar, were found to be in a perfectly decayed condition, and so saturated with water, that about

an ounce separated by standing. The silver coins were also highly corroded by sulphur, particularly where in contact with a German silver piece and a couple of small notes, at that time so common, and known by the vulgar but now almost historical name of shin-plasters.

Stated Meeting, April 15.

Present, twenty-three members.

JUDGE KANE, Vice-President, in the Chair.

Letters were read:—

From A. L. Crelle, dated Berlin, 22d March, 1853, acknowledging the receipt of notice of his election as a member of the Society:—

From the Royal Danish Society of Sciences, dated Copenhagen, 27th Sept. 1852, accompanying a donation for the Library:—

From Lieut. J. M. Gilliss, dated Washington, 6th April, 1853, announcing a donation for the Library, made at his request, by the Council of the University of Chile.

The following donations were announced:—

FOR THE LIBRARY.

Archives du Muséum d'Histoire Naturelle: Tome VI. livr. 3, 4. Paris, 1852. 4to.—*From the Professors of the Museum.*

Det Kongelige Danske Videnskabernes Selskabs Skrifter. Femte Række. Historisk og Philosophisk Afdeling. Første Bind. 1852. Kiøbenhavn. 4to.—*From the Royal Danish Society of Sciences.*

Anales de la Universidad de Chile, correspondientes a los años 1843, hasta 1852. Santiago de Chile. 8vo.—*From the University of Chile.*

Transactions of the Royal Irish Academy. Vol. XXII. Part 3, Science: Part 4, Polite Literature. 1852-3. Dublin. 4to.—*From the Academy.*

Proceedings of the Royal Irish Academy, for the year 1851-2. Vol. V. Part 2. Dublin. 8vo.—*From the same.*

Journal of the Boston Society of Natural History; June, 1852. Boston. 8vo.—*From the Society.*

- Proceedings of the Academy of Natural Sciences of Philadelphia:
Vol. VI. No. 7. Jan. and Feb. 1853. Philadelphia. 8vo.—
From the Academy.
- Proceedings of the New Jersey Historical Society: Vol. V. No. 4.
Newark, 1853. 8vo.—*From the Society.*
- Journal of the Franklin Institute. 3d Series. Vol. XXV. No. 4.
April, 1853. Philadelphia. 8vo.—*From the Institute.*
- The African Repository. Vol. XXIX. Nos. 1, 2, 3. Jan. Feb. March,
1853. Washington. 8vo.—*From the American Colonization
Society.*
- The American Journal of the Medical Sciences. No. L. New Se-
ries. April, 1853. Philadelphia. 8vo.—*From Dr. Isaac Hays,
Editor.*
- The Medical Examiner and Record of Medical Science. New Series.
Vol. VIII. Nos. 8 to 12: Vol. IX. Nos. 1 to 4. Philadelphia,
1852-3. 8vo.—*From Dr. F. G. Smith, Editor.*
- The Medical News and Library: Vol. XI. No. 124. April, 1853.
Philadelphia. 8vo.—*From Blanchard & Lea.*
- The Astronomical Journal. No. 55. (Vol. III. No. 7), March 28,
1853. Cambridge. 4to.—*From Dr. B. A. Gould, jr., Editor.*
- The Plough, the Loom and the Anvil. Vol. V. No. 4. April, 1853.
New York and Philadelphia. 8vo.—*From F. G. Skinner, Edi-
tor.*
- Thirty-fourth Annual Report of the Controllers of the Public Schools
of the City and County of Philadelphia, for the year ending June
30, 1852. Philadelphia. 8vo.—*Donor unknown.*

FOR THE CABINET.

- Specimens of Petrified Wood, altered by the heat of the conflagration
at Barnum's Museum, in Philadelphia, Jan. 2, 1852: and
An Indian Arrow from Oregon.—*From Dr. Franklin Stewart.*

Dr. Boyé referred to his communication to the Society at its last meeting in regard to the decay of the articles deposited in the corner stone of the High School. He stated, that at the request of the Committee of the Controllers on Property, he had given the subject a further careful examination, and he is now satisfied, that the water must have got in from the outside by infiltration, first through the mortar into the cavity, and afterwards from this through the sealing wax, with which the glass stopper was secured. The corner stone formed the lowermost north-west stone of the foundation of the main

building, and consisted of a block of blue marble, in which a rectangular excavation had been made, which was closed on top by a marble slab sunk down into the stone, and secured by common mortar. The papers and coins had been deposited in a half gallon wide-mouthed glass jar with glass stopper, secured by ordinary sealing wax, and the jar laid down in a horizontal position, in direct contact with the bottom of the cavity. When opened, the cavity itself contained no water. The reasons which induce him to suppose that the water found its way in from the outside at an early period, either during or soon after the erection of the building, but subsequently again evaporated from the cavity in the stone, are:—1. Though the marble slab seems to have been well secured, there are evident signs of a gradual infiltration on all sides of the cavity, but particularly on one from a calcareous film deposited on it, most observable in the bottom of the chisel-grooves. 2. A thin white film of carbonate of lime deposited externally on one side of the jar, indicating a distinct water line. No such water line, however, was perceptible in the cavity of the stone, seeming to indicate that the infiltration and subsequent evaporation had been gradual, and the jar floating. 3. The entire decolorization and corrosion of the sealing wax outside the stopper, causing it to be loose and friable. This action is ascribed to the lime of the water. A portion of the sealing wax, which, during the sealing, had run into the jar and yet adhered to the stopper, was discolored on the outer surface, but perfectly fresh inside, and was found to consist of nothing but the ordinary resinous matters and vermilion (sulphuret of mercury), without oxide of lead or earthy matters. That outside left by incineration a little more ash, which effervesced with acids. 4. Traces of a thin layer of sealing wax having been secured in the molten state between the stopper and the neck of the jar, and of its subsequent removal by the infiltration, so that the stopper now fits further in the neck than when the jar was in the cavity. This is known by corresponding stains on both the ground surfaces of the joint. The water in the jar became almost entirely absorbed by the removal of the papers from it. What was left of it, would not filter clear, it had a feeble alkaline reaction on litmus, contained only traces of sulphuric acid and lime, did not blacken metallic silver, [the jar was not opened or examined till about ten days after its removal,] yielded at first no precipitate with nitrate of silver, but after some time a dark brown, and the solution assumed a dark blood red colour. The corrosion of the coins was therefore mainly ascribed to the sulphur in the glue or

sizing in the paper. The inside of the jar, where in contact with the papers, was also stained by a black film of sulphuret of lead from the oxide of lead contained in the glass.

The Society then proceeded to the stated business of the meeting, the balloting for candidates for membership.

All other business having been concluded, the ballot boxes were opened, and the following named gentlemen were declared, by the presiding officer, to be duly elected members of the Society.

THOMAS L. PATTERSON, Chief Engineer of the Chesapeake and Ohio Canal.

HENRY GRINNELL, of New York.

JOHN B. BIDDLE, M.D., of Philadelphia.

Stated Meeting, May 6.

Present, nine members.

JUDGE KANE, Vice-President, in the Chair.

Letters were read:—

From Henry Grinnell, dated New York, 19th April, 1853:—
and from Dr. John B. Biddle, dated Philadelphia, 22d April, 1853,—severally acknowledging the receipt of notice of their election as members:—

From the Imperial Academy of Sciences at Vienna, dated 7th October, 1852, returning thanks for No. 47 of the Proceedings of this Society:—

From the Royal Prussian Academy of Sciences, dated Berlin, 11th November, 1852, accompanying a donation for the Library: and—

Copy of a letter from Dr. J. G. Grunert, Professor of Mathematics in the University of Greifswald, to Dr. J. G. Flügel, of Leipsic, dated Greifswald, 4th January, 1853, on transmitting to him two copies of a work written by Dr. Grunert, and requesting Dr. Flügel to present one of them to this Society.

The following donations were announced :—

FOR THE LIBRARY.

- Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin, aus dem Jahre 1851. Berlin. 4to.—*From the Royal Academy of Sciences, Berlin.*
- Monatsbericht der Königl. Preuss. Akademie der Wissenschaften zu Berlin. Jul. Aug. Sept. Oct. 1852. Berlin. 8vo.—*From the same.*
- Monthly Notices of the Royal Astronomical Society: Vol. XIII. Nos. 4, 5. Feb. March, 1853. London. 8vo.—*From the Society.*
- Journal of the Franklin Institute. 3d Series. Vol. XXV. No. 5. May, 1853. Philadelphia. 8vo.—*From the Institute.*
- The African Repository: Vol. XXIX. No. 4. April, 1853. Washington. 8vo.—*From the American Colonization Society.*
- The American Journal of Science and Arts. 2d Series. Vol. XV. No. 45. May, 1853. New Haven. 8vo.—*From Profs. Silliman and Dana, Editors.*
- Ueber das Katoptrische und Dioptrische Beleuchtungssystem für Leuchthürme. Von Johann August Grunert, Prof. zu Greifswald. Greifswald, 1852. 8vo.—*From the Author.*
- On the probable number of the Native Indian Population of British America. (From the Proceedings of the Canadian Institute). By Capt. J. H. Lefroy, R. A. Toronto. 8vo.—*From the Author.*
- A Digest of the Acts of Assembly and of the Ordinances of the Inhabitants and Commissioners of the District of Spring Garden, for the Government of that District. By Robert Bethell, Solicitor of the Corporation. Philadelphia, 1852. 8vo.—*From the Author.*
- The Astronomical Journal. Nos. 56, 57. April 19, 25, 1853. Cambridge. 4to.—*From Dr. B. A. Gould, jr., Editor.*
- The Medical Examiner and Record of Medical Science. New Series. Vol. IX. No. 5. May, 1853. Philadelphia. 8vo.—*From Drs. Smith and Biddle, Editors.*
- The Medical News and Library. Vol. XI. No. 125. May, 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*
- On a New Apparatus for the determination of Carbonic Acid, and on Kemp's Thermostat. By Charles M. Wetherill, Ph. D. M.D.—*From the Author.*

Miscellanea Eruditæ Antiquitatis: curâ Jacobi Sponii, &c. &c. Lugduni, 1685. Folio.—*From Prof. J. F. Frazer.*

Antonii van Dale, Dissertationes IX. Antiquitatibus quin et Marmoribus, cum Romanis, tum potissimum Græcis illustrandis inservientes. Amstelodami, 1702. 4to.—*From the same.*

Judge Kane announced the decease of the Hon. John Banister Gibson, late Chief Justice of Pennsylvania, a member of this Society, who died on the 3d inst.

Mr. Edward Miller presented, for the Cabinet of the Society, a specimen of silicate of zinc, from the Saucon valley, in Lehigh county, Pennsylvania. The bed of this ore is extensively worked;—the product being sent to New York, for the manufacture of zinc paint.

A discussion ensued with regard to the deposits of this mineral, in which Mr. Miller, Prof. Frazer, Dr. Boyé and Mr. Trego took part. Dr. Boyé remarked that he had found the carbonate of zinc also in the above mentioned locality, and had ascertained it to be that mineral by chemical analysis.

Prof. Frazer, from the Committee on Dr. Kane's Expedition to the Arctic regions, reported that the services of a competent astronomical observer had been secured to accompany the expedition;—and presented a list of names as subscribers to a fund in aid of such services, amounting to \$425, principally contributed by members of the Society.

The following resolution was offered by Mr. Trego, which, after being read and considered, was adopted:

Resolved, That the Curators be authorized to exchange with other societies or individuals, such duplicate or supernumerary specimens of coins, medals, minerals and other articles as they may deem unnecessary to be retained in the Cabinet of the Society, for such other specimens, of equal value, as they may consider desirable to be added to the Society's present collection;—and that the Curators be instructed to make report to the Society of their proceedings from time to time.

Stated Meeting, May 20.

Present, thirteen members.

Dr. DUNGLISON, Vice-President, in the Chair.

Drs. B. A. Gould, jr. and J. B. Biddle, recently elected members, were introduced and took their seats.

Letters were read:—

From Dr. J. G. Flügel, dated Leipsic, March 31, 1853, acknowledging the receipt of notice of his election as a member of this Society:—

From the Royal Society of London, dated Somerset House, Feb. 7, 1853, returning thanks for No. 47 of the Proceedings; and—

From Dr. Edward Jarvis, announcing a donation of a collection of pamphlets made by him to the Library of the Society.

The following donations were announced:—

FOR THE LIBRARY.

Transactions of the Royal Society of London, for the year 1852.

Parts 1 and 2: with a list of the Council and Fellows of the Society. London. 4to.—*From the Society.*

Proceedings of the Royal Society of London. Vol. VI. Nos. 83 to 93. London. 8vo.—*From the same.*

Mémoires de l'Académie Royale des Sciences, des Lettres et des Beaux Arts de Belgique. Tome XXVI. Bruxelles, 1851. 4to.—*From the Belgian Academy of Sciences, &c.*

Mémoires Couronnés et Mémoires des Savants Etrangers, publiés par l'Académie Royale des Sciences, &c. de Belgique. Tome XXIV. 1850-1. Bruxelles. 4to.—*From the same.*

Mémoires Couronnés:—Collection in 8vo. Tome V. Première Partie. Bruxelles. 8vo.—*From the same.*

Bulletins de l'Académie Royale des Sciences, &c. de Belgique: Tome XVIII. 2ème Partie. Tome XIX. 1ère et 2ème Parties, 1852. Bruxelles. 8vo.—*From the same.*

Annuaire de l'Académie Royale des Sciences, &c. de Belgique, 1852. XVIII. Année. Bruxelles. 8vo.—*From the same.*

- Annales de l'Observatoire Royal de Bruxelles: par A. Quetelet, Directeur. Tome VIII. 2ème Partie. Tome IX. Bruxelles, 1852. 4to.—*From the Observatory.*
- Annuaire de l'Observatoire Royal de Bruxelles, par A. Quetelet, Directeur, 1852, XIX. Année: 1853, XX. Année. Bruxelles. 12mo.—*From the Author.*
- Observations des Phénomènes Périodiques: 1849, 1850, 1851. Bruxelles. 4to.—*From the same.*
- Sur les Tables de Mortalité et de Population. Par M. A. Quetelet, Président de la Commission Centrale de Statistique. Bruxelles. 4to.—*From the same.*
- Recherches sur les Médianes: par M. Ernest Quetelet, Officier du Génie, Ancien Eleve de l'Ecole Militaire. Bruxelles. 4to.—*From the Author.*
- Ricerche Fisico-Matematiche sulla Deviazione del Pendolo dalla sua traiettoria: Memoria dell 'Abbate Francesco Zantedeschi, Professore di Fisica, &c. Padova, 1852. 4to.—*From the Author.*
- Rapport sur les Recherches Geologiques, executées par ordre du Gouvernement pendant l'année 1852, dans la Néerlande. Harlem. 4to.—*Donor unknown.*
- Proceedings of the American Antiquarian Society, in Worcester. October, 23, 1852. 8vo.—*From the Society.*
- Battle of Lake Erie:—A Discourse delivered before the Rhode Island Historical Society, on the evening of Monday, February 6, 1852. By Usher Parsons. Providence. 8vo.—*From the Society.*
- A Collection of Pamphlets, 54 in number, comprising Public Documents of the State of Massachusetts and of the City of Boston, relative to Education, Charitable Institutions, Pauperism, Prisons, Rail-roads, Banks, Insurance, and other statistical subjects.—*From Dr. Edward Jarvis.*
- The Plough, the Loom and the Anvil. Vol. V. No. 5. May, 1853. New York and Philadelphia. 8vo.—*From F. G. Skinner, Editor.*
- Access to an Open Polar Sea in connection with the Search after Sir John Franklin and his companions: by E. K. Kane, M.D. Past Assistant Surgeon in the U. S. Navy. (Read before the American Geographical and Statistical Society at its regular monthly meeting, Dec. 14, 1852.) New York, 1852. 8vo.—*From the Author.*

The minutes of the officers and council at their meeting on the 13th inst. were read.

Judge Kane, on the part of Dr. E. K. Kane, communicated the thanks of the latter for the aid extended to him by the Society, in relation to the expedition about to sail under his command to the Arctic regions. The preparations having been nearly completed, the vessel will probably be at sea in the course of the next ten days.

Stated Meeting, June 17.

Present, twelve members.

Dr. DUNGLISON, Vice-President, in the Chair.

Dr. Robert M. Bird, a recently elected member, was introduced and took his seat.

Letters were read:—

From the Secretary of l'Ecole des Mines, dated Paris, 4th January, 1853, announcing the transmission of a donation for the Society's Library: and—

A circular letter, dated City Library, New Bedford, May 21, 1853, accompanying the first Annual Report of the Trustees of said Library, and expressing a desire to correspond with other literary and scientific institutions.

The following donations were announced:—

FOR THE LIBRARY.

Memorie dell' I. R. Istituto Lombardo di Scienze, Lettere ed Arti. Vol. III. Milano, 1852. 4to.—*From the Royal Lombardy Institute of Sciences, Letters and Arts.*

Giornale dell' I. R. Istituto Lombardo, &c. Tomo VI. VII. VIII. Milano, 1846–1847. 8vo.—*From the same.*

Giornale dell' I. R. Istituto Lombardo, &c. e Biblioteca Italiano. Nuova Serie. Fascicoli I.–XVIII. Milano, 1847–1852. 4to.—*From the same.*

Monthly Notices of the Royal Astronomical Society. Vol. XIII. No. 6. April 8, 1853. London. 8vo.—*From the Society.*

- Proceedings of the Academy of Natural Sciences of Philadelphia.
Vol. VI. No. 8. Philadelphia. 8vo.—*From the Academy.*
- Celebration by the Historical Society of Pennsylvania, of the 170th Anniversary of the Landing of William Penn:—Oration by Robert T. Conrad, Esq., and Proceedings at the Dinner. Nov. 8, 1852. Philadelphia. 8vo.—*From the Society.*
- Proceedings of the Boston Society of Natural History: March, April, 1853. Boston. 8vo.—*From the Society.*
- Descriptions of New Species of Achatinella, from the Sandwich Islands. By Dr. W. Newcomb, of Honolulu, Cor. Memb. N. Y. Lyc. Nat. Hist. May, 1853. 8vo.—*From the N. Y. Lyceum of Nat. History.*
- The African Repository: Vol. XXIX. No. 5. May, 1853. Washington. 8vo.—*From the American Colonization Society.*
- Annales des Mines: V. Série. Tome II. 5 livr. de 1852. Paris. 8vo.—*From the Engineers of l'Ecole des Mines.*
- Journal of the Franklin Institute: 3d Series. Vol. XXV. No. 6. June, 1852. Philadelphia. 8vo.—*From the Institute.*
- On the Electrotyping Operations of the United States Coast Survey. By George Mathiot, Electrotypist. (Am. Jour. Sci. and Arts. Vol. XV. 1853). New Haven. 8vo.—*From the U. S. Coast Survey.*
- First Annual Report of the Trustees of the New Bedford City Library. New Bedford. 8vo.—*From the Trustees.*
- Historia de Mejico, desde los primeros movimientos que prepararon su independencia en el año de 1808, hasta la epoca presente. Por Don Lucas Alaman. Parte Segunda. Tomo V. Mexico, 1852. 8vo.—*From the Author.*
- The Slave Trade, domestic and foreign: Why it exists and how it may be extinguished. By H. C. Carey. Philadelphia, 1853. 8vo.—*From the Author.*
- Mathematics Simplified and made attractive; or the Laws of Motion explained:—With a Port Folio of Diagrams. By Thomas Fisher. Philadelphia, 1853.—*From the Author.*
- The Medical Examiner. New Series. Vol. IX. No. 6. June, 1853. Philadelphia. 8vo.—*From Drs. Smith and Biddle, Editors.*
- The Medical News and Library. Vol. IX. No. 126. June, 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*
- Report of the Eastern Lunatic Asylum in the City of Williamsburg, Virginia, 1852-3. Richmond. 8vo.—*From Dr. John M. Galt.*

Report of the Board of Directors of the Pennsylvania Institution for the Deaf and Dumb, for 1852. Philadelphia. 8vo.—*From James J. Barclay, Esq.*

Education: An Address delivered before the Linnean Association of Pennsylvania College, Gettysburg, April 18, 1853. By A. Webster, D.D., of Baltimore, Maryland. Gettysburg. 8vo.—*From Prof. M. L. Stoever.*

The Influence of the Bible on Literature: A Discourse delivered before the Bible Society of Pennsylvania College and Theological Seminary, Gettysburg, April 17, 1853. By J. A. Seiss, A.M., of Baltimore, Md. Gettysburg. 8vo.—*From the same.*

The Astronomical Journal: Vol. III. Nos. 58, 59. May 18, June 10, 1853. Cambridge. 4to.—*From Dr. B. A. Gould, jr., Editor.*

On motion of Mr. Trego, the City Library of New Bedford was ordered to be placed on the list of correspondents of this Society.

A list of the Special Committees of the Society which have not yet made final reports was read over, and a number of said committees were, on motion, discharged;—to sundry others notice was directed to be given that reports from them are desired by the Society.

Dr. Ruschenberger was appointed in place of Dr. W. E. Horner, deceased, to prepare an obituary notice of the late Dr. S. G. Morton.

P R O C E E D I N G S
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. V. JULY—DECEMBER, 1853. No. 50.

Stated Meeting, July 15.

Present, nine members.

JUDGE KANE, Vice-President, in the Chair.

The following donations were announced :—

FOR THE LIBRARY.

Quarterly Journal of the Geological Society: Vol. IX. Part 2. No.

34. May, 1853. London. 8vo.—*From the Society.*

Address delivered at the Anniversary Meeting of the Geological Society of London, Feb. 18, 1853, by Wm. Hopkins, Esq., President of the Society. London. 8vo.—*From the same.*

Monthly Notices of the Royal Astronomical Society. Vol. XIII. No. 7. May 13, 1853. London. 8vo.—*From the Society.*

Observations made at the Magnetical and Meteorological Observatory at Hobarton, in Van Deimen Island. Printed by order of Her Majesty's Government, under the Superintendence of Col. Edward Sabine, R.A. Vol. III., commencing with 1846. London, 1853. 4to.—*From the British Government.*

A Descriptive Catalogue of the London Traders, Tavern and Coffee-House Tokens current in the XVII. Century, presented to the Library of the Corporation of the city of London, by Henry B. H. Beaufoy, F.R.S., &c. &c. By Jacob Henry Burn. London, 1853. 8vo.—*From the Library Committee of the Corporation of the city of London.*

Smithsonian Contributions to Knowledge: Vol. V. Washington, 1853. 4to.—*From the Smithsonian Institution.*

Memoirs of the American Academy of Arts and Sciences. New Series. Vol. V. Part 1. Boston, 1853. 4to.—*From the Academy.*

- Sixty-sixth Annual Report of the Regents of the University of the State of New York:—transmitted to the Legislature, March 1, 1853. Albany. 8vo.—*From the Regents.*
- Journal of the Franklin Institute. Third Series. Vol. XXVI. No. 1. July, 1853. Philadelphia. 8vo.—*From the Institute.*
- The African Repository. Vol. XXIX. No. 6. June, 1853. Washington. 8vo.—*From the American Colonization Society.*
- The American Journal of Science and Arts. Second Series. Vol. XVI. No. 46. July, 1853. New Haven. 8vo.—*From the Editors.*
- The American Journal of the Medical Sciences. No. LI. New Series. July, 1853. Philadelphia. 8vo.—*From Dr. Isaac Hays, Editor.*
- The Medical News and Library. Vol. XI. No. 127. July, 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*
- The Medical Examiner. New Series. Vol. IX. No. 7. July, 1853. Philadelphia. 8vo.—*From Drs. Smith and Biddle, Editors.*
- Remarks on a “Reprint of the Original Letters from Washington to Joseph Reed, during the American Revolution, referred to in the Pamphlets of Lord Mahon and Mr. Sparks.” By Jared Sparks. Boston, 1853. 8vo.—*From the Author.*
- Examination of Fusel Oil from Indian Corn and Rye. By Charles M. Wetherill, Ph. D. M. D. Philadelphia, 1853. 8vo.—*From the Author.*
- Astronomical Journal. Vol. III. No. 12. June 27, 1853. Cambridge. 4to.—*From B. A. Gould, jr. Editor.*
- The Plough, the Loom and the Anvil. Vol. VI. Part 1. July, 1853. New York. 8vo.—*From the Editors.*

Dr. Hays announced the decease of Dr. Nathaniel Chapman, formerly President of this Society, who died in Philadelphia on the first of the present month, aged 74:—

And, on motion, it was resolved, that Mr. Thomas Dunlap be requested to prepare an obituary notice of Dr. Chapman.

Mr. Trego announced the death of Don Lucas Alaman, a member of this Society, who died in the city of Mexico, June 2, 1853.

Señor Alaman was Secretary of Foreign Affairs for the Republic of Mexico, and his death caused a great sensation and sorrow through the capital as soon as it was announced. He had lost his conscious-

ness since the preceding night, and died in a state of insensibility. His death is said to have been caused by the excessive labour which he had imposed upon himself, since he was appointed to office.

He was one of the most popular members of the cabinet, and was universally esteemed for his noble private qualities, no less than for his talent as a statesman. He was the leader of the conservative party, who will feel his loss very heavily. He was known as a man of strong mind, great instruction and erudition, sincerity and firmness. He was a very religious man, and a strict observer of his creed. He had long held a prominent political position in the country. All the papers are filled with obituary notices, of the most laudatory description.

The President ordered a letter to be written in his name, to the family of the deceased, in which he sympathises with them for the loss they have sustained in the death of a man of such abilities as a statesman, such integrity and patriotism as a citizen, and gifted with such noble qualities as justly commended universal respect.

Dr. Hays announced the decease of Dr. Charles Caldwell, of Louisville, Kentucky, a member of this Society, who died on the ninth of the present month, at the age of about 90 years.

Whereupon, on motion of Dr. Hays, it was resolved that Mr. George Ord be requested to prepare an obituary notice of Dr. Caldwell.

The Society then proceeded to the stated business of the meeting, the balloting for candidates for membership.

All other business having been concluded, the ballot boxes were opened, and the following named gentleman was declared by the presiding officer to be duly elected a member of the Society.

Dr. MARSHALL HALL, F.R.S. London and Edinburgh.

Stated Meeting, August 19.

Present, five members.

Dr. DUNGLISON, Vice-President, in the Chair.

Letters were read:—

From the Royal Bavarian Academy of Sciences, dated Munich, 6th Nov. 1852, announcing the transmission of a donation to the Society, and also acknowledging the receipt of No. 47 of the Proceedings:—

From the Hon. A. Dudley Mann, Acting Secretary of State, dated Washington, July 29, 1853, announcing a donation of 49 volumes of Congressional Documents, from the Department of State, for the Society's library:—

From Mr. George Ord, dated July 17 and July 25, 1853, declining, for reasons given, the preparation of obituary notices of Dr. Charles Caldwell and Dr. Philip Tidyman: and—

From Mr. John Lenthall, dated Washington, August 4, 1853, in relation to an obituary notice of the late Samuel Humphreys, which he was some time since requested to prepare for the Society.

The following donations were announced:—

FOR THE LIBRARY.

Bulletin de la Société de Géographie. IV. Série. Tome V. Paris, 1852. 8vo.—*From the Society.*

Abhandlungen der Math. Phys. Classe der Königlich Bayerischen Akademie der Wissenschaften. Band VI. Abth. 3. München, 1852. 4to.—*From the Academy.*

Bulletin der Königl. Akademie der Wissenschaften, 1852. Nos. 1-24. München. 4to.—*From the same.*

Gelehrte Anzeigen: herausgegeben von Mitgliedern der Königl. Bayerischen Akademie der Wissenschaften. XXXIV. Band. München. 4to.—*From the same.*

Monthly Notices of the Royal Astronomical Society. Vol. XIII. No. 8. June 10, 1853. London. 8vo.—*From the Society.*

Astronomical Observations made at the Radcliffe Observatory in the year 1851. By Manuel J. Johnson, M.A. Radcliffe Observer.

- Vol. XII. Oxford, 1853. 8vo.—*From the Radcliffe Trustees.*
- Quarterly Journal of the Chemical Society. No. XXII. July 1, 1853. London. 8vo.—*From the Society.*
- Catalogue of the Cabinet of Natural History of the State of New York, and of the Historical and Antiquarian Collection annexed thereto. Albany, 1853. 8vo.—*From the Trustees of the University of the State of New York.*
- Proceedings of the Boston Society of Natural History. May, 1853. Boston. 8vo.—*From the Society.*
- Annals of the Lyceum of Natural History of New York. Vol. VI. No. 1. May, 1853. New York. 8vo.—*From the Lyceum.*
- Proceedings of the Academy of Natural Sciences of Philadelphia: Vol. VI. No 9. Philadelphia. 8vo.—*From the Academy.*
- Journal of the Franklin Institute: 3d Series. Vol. XXV. No. 2. May, 1853. Philadelphia. 8vo.—*From the Institute.*
- The African Repository: Vol. XXIX. No. 7. July, 1853. Washington. 8vo.—*From the American Colonization Society.*
- The Medical Examiner. New Series. Vol. IX. No. 8. Aug. 1853. Philadelphia. 8vo.—*From Drs. Smith & Biddle, Editors.*
- Illustrations of the Birds of California, Texas, Oregon, British and Russian America, intended to contain descriptions and figures of all North American Birds not given by former American Authors, and a general Synopsis of North American Ornithology. No. 1. By John Cassin, Mem. Acad. Nat. Sci. Philadelphia, of the American Philosophical Society, &c. &c. Philadelphia, 1853. 8vo.—*From the Author.*
- A series of Pamphlets relating to the management of the Delaware and Raritan Canal and Camden and Amboy Rail Road Companies. By a Citizen of Burlington. Philadelphia, 1848-1851. 8vo.—*From H. C. Carey, Esq.*
- The proceedings of the late Director of the Mint in relation to the official misconduct of Franklin Peale, Esq., Chief Coiner, and other abuses in the Mint, reviewed by Prof. R. S. McCulloh, formerly the Melter and Refiner of the Mint. Princeton, N. J. 1853. 8vo.—*From the Author.*
- The Astronomical Journal. Vol. III. No. 14. July 29, 1853. Cambridge. 4to.—*From Dr. B. A. Gould, jr., Editor.*
- The Medical News and Library. Vol. XI. No. 128. August, 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*

The Plough, the Loom and the Anvil. Vol. VI. No. 2. Aug. 1853.
New York. 8vo.—*From the Editors.*

Mr. Ord having declined the preparation of obituary notices of Drs. Caldwell and Tidyman, deceased members of the Society,—it was resolved that Dr. Holbrook, of Charleston, S. C. be requested to prepare a notice of Dr. Tidyman, and Dr. Benjamin H. Coates one of Dr. Caldwell.

Dr. B. H. Coates announced the decease of Mr. John Price Wetherill, a member of this Society, who died on the 24th of July, 1853, aged 59:—and, on motion of Dr. Harris, Judge Kane was requested to prepare a notice of the deceased member.

The minutes of the Board of Officers and Council of the Society, at their late meeting, were reported.

Stated Meeting, September 16.

Present, thirteen members.

Dr. DUNGLISON, Vice-President, in the Chair.

Letters were read:—

From Dr. Franklin Bache, President of the Society, dated St. Petersburg, July 24, 1853, in relation to the members of this Society resident in Russia, and giving information of the decease of several of them, of which no announcement had been previously made to the Society: and—

From Ch. Fr. Gauss, dated Göttingen, 2d July, 1853, acknowledging the receipt of notice of his election as a member.

The following donations were announced:—

FOR THE LIBRARY.

Quarterly Journal of the Chemical Society. No. XXI. April 1, 1853.
London. 8vo.—*From the Society.*

The African Repository. Vol. XXIX. No. 8. August, 1853. Washington. 8vo.—*From the Am. Colonization Society.*

Journal of the Franklin Institute. Third Series. Vol. XXVI. No. 3.

Sept. 1853. Philadelphia. 8vo.—*From the Institute.*

Documents of the First Session of the 32d Congress, 43 vols.

Senate Documents of the First Session of the 31st Congress, Vols. 11, 12.

Senate Documents, Special Session, 1851, Vols. 1, 3.

Owen's Geological Survey of Wisconsin, Iowa and Minnesota, with Illustrations. 2 vols. 4to. Washington.—*From the Department of State.*

Description of some Species of the extinct Genus *Nesodon*, with remarks on the primary group (Toxodontia) of the Hoofed Quadrupeds, to which that Genus is referable. By Prof. Owen, F.R.S., &c. (Phil. Trans. 1853). London. 4to.—*From the Author.*

On the Periodic and Non-periodic Variations of the Temperature at Toronto, in Canada, from 1841 to 1852 inclusive. By Col. Edward Sabine, of the Royal Artillery, Treas. & V. P. F.R.S. (Phil. Trans. 1853). London. 4to.—*From the Author.*

On Periodical Laws in the larger Magnetic Disturbances. By Capt. C. W. Younghusband, R. A. F.R.S. (Phil. Trans. 1853). London. 4to.—*From the Author.*

The American Journal of Science and Arts. Second Series. No. 47. Sept. 1853. New Haven. 8vo.—*From the Editors.*

A Collection of Tables useful in Surveying, Geodesy and Practical Astronomy, including Elements for the Projection of Maps. Prepared for the use of the Corps of Topographical Engineers, by Capt. T. J. Lee, Top. Engr. U. S. A. Washington, 1853. 8vo.—*From Col. J. J. Abert.*

Documentary History of the American Revolution, consisting of Letters and Papers relating to the contest for liberty, chiefly in South Carolina, in 1781 and 1783: from originals in the possession of the Editor, and from other sources. By R. W. Gibbes, M.D. &c. &c. Columbia, S. C. 1853. 8vo.—*From the Author.*

Bibliography of American Natural History for the year 1851. By Charles Girard, Mem. Acad. Nat. Sci. Philadelphia, Bost. Soc. Nat. Hist. &c. &c. Washington, 1852. 8vo.—*From the Author.*

The Medical Examiner. New Series. Vol. IX. No. 9. Sept. 1853. Philadelphia. 8vo.—*From the Editors.*

- The Medical News and Library. Vol. XI. No. 129. Sept. 1853.
Philadelphia. 8vo.—*From Blanchard & Lea.*
- The Astronomical Journal. Vol. III. No. 15. Sept. 3, 1853. Cambridge, Mass. 4to.—*From the Editor.*
- The Plough, the Loom and the Anvil. Vol. VI. No. 3. Sept. 1853.
New York. 8vo.—*From the Editors.*

Dr. Boyé stated to the Society, that on his return voyage from England, on the 2d of September, 1853, at 9 o'clock in the evening, in latitude $46^{\circ} 30'$, and in the longitude of Cape Race, Newfoundland, he saw an Aurora Borealis, whose point of radiance was remarkably well defined, and surrounded with light. The radiant point was in the southern hemisphere, at least fifteen or twenty degrees below the zenith, and rather in the magnetic meridian. There were three arches of light,—one north-west, one east of north, and one much larger in the south:—that in the north-west was undulating. The rays of light did not proceed from a point, but from an oval space. The appearance of the radiance recalled to the mind of Dr. Boyé certain phenomena of crystallization.

Professor Frazer remarked that a somewhat peculiar auro-ral phenomenon was seen on the same evening at Philadelphia.

Mr. Justice referred to the recent appearance of Klinkerfuss' comet, and remarked that during his observations the tail appeared of a pinkish hue; in connection with which he mentioned the suggestion of Mr. Trego, that the tail of the comet might be the effect of the sun's light passing through the head of the comet and polarized in its passage.

Pending nominations for membership were read.

On motion of Prof. Frazer, a letter from I. Barnard Davis, relative to the publication of a proposed work, entitled "Crania Britannica," was laid on the table;—and a circular from the publishers of the "Comptes Rendus de l'Académie des Sciences Morales et Politiques," was referred to the Committee on the Library, with power to take order on the subject.

Stated Meeting, October 7.

Present, thirteen members.

Dr. FRANKLIN BACHE, President, in the Chair.

Letters were read:—

From the Zoological Society of London, dated Hanover Square, August, 1853, returning thanks for Vol. X. Part 2, of the Transactions of this Society, and for No. 48 of the Proceedings:—

From the Leeds Philosophical and Literary Society, dated August 29, 1853, acknowledging the receipt of the Transactions, Vol. X. Part 2:—

From the Natural History Society of Northumberland, Durham and Newcastle upon Tyne, dated Newcastle, 25th August, 1853, returning thanks for Vol. X. Part 2, of the Transactions, and for the Proceedings of the year 1852:—

From Dr. G. B. Massone, General Secretary of the Medico-Chirurgical and Natural Science Academy at Genoa, dated 5th Sept. 1853, announcing an intended donation for the Library of the Society: and—

From Dr. A. L. Crelle, dated Berlin, 2d Sept. 1853, acknowledging the receipt of his certificate of membership in this Society, and expressing regret that his absence from home deprived him of the pleasure of seeing two of our members from Philadelphia, who called at his house in Berlin during the past summer.

The following donations were announced:—

FOR THE LIBRARY.

Annuaire de la Société Impériale des Antiquaires de France, 1853.

Paris. 8vo.—*From the Society.*

Quarterly Journal of the Geological Society. Vol. IX. Part 3. (No. 35). Aug. 1, 1853. London. 8vo.—*From the Society.*

Report of the Twenty-second Meeting of the British Association for the Advancement of Science, held at Belfast in September, 1852.

London. 8vo.—*From the Association.*

Pennsylvania Archives: selected and arranged from original docu-

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ments in the office of the Secretary of the Commonwealth, conformably to Acts of the General Assembly, Feb. 15, 1851, and March 1, 1852. By Samuel Hazard. Commencing 1664. 5 vols. Philadelphia. 8vo. (5 copies).—*From the State of Pennsylvania.*

Directions for collecting, preserving and transporting Specimens of Natural History ;—prepared for the use of the Smithsonian Institution. Washington, 1852. 8vo.—*From the Smithsonian Institution.*

Directions for Meteorological Observations, intended for the first class of observers. Published by the Smithsonian Institution. 1852. 8vo.—*From the same.*

Portraits of North American Indians, with Sketches of Scenery, &c. painted by J. M. Stanley ; deposited with the Smithsonian Institution. Washington, 1852. 8vo.—*From the same.*

Report to the Smithsonian Institution on the History of the Discovery of the planet Neptune. By Benjamin Apthorp Gould, jr. Washington, 1850. 8vo.—*From the same.*

Vocabulary of the Jargon or Trade Language of Oregon : Published by the Smithsonian Institution. Washington, 1853. 8vo.—*From the same.*

Catalogue of North American Reptiles in the Museum of the Smithsonian Institution. Part 1. Serpents. By S. F. Baird and C. Girard. Washington, 1853. 8vo.—*From the same.*

A Collection of Meteorological Tables, with other Tables useful in Practical Meteorology : Prepared by order of the Smithsonian Institution, by Arnold Guyot. Washington, 1851. 8vo.—*From the same.*

Fourth, Fifth and Sixth Annual Reports of the Board of Regents of the Smithsonian Institution, for the years 1849, 1850, 1851. Washington. 8vo.—*From the same.*

Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. VI. No. 10. Philadelphia, 1853. 8vo.—*From the Academy.*

The African Repository. Vol. XXIX. No. 9. Sept. 1853. Washington. 8vo.—*From the Am. Colonization Society.*

Second Annual Report on the Geological Survey of the State of Ohio. By W. W. Mather, Principal Geologist, and the several Assistants. Columbus, 1838. 8vo.—*From Dr. J. P. Kirtland.*

Entomographie de la Russie, par G. Fischer de Waldheim. Tome

V. Lepidoptères de Russie. 1. Nymphalides. Moscou, 1851.
4to.—*From the Author.*

The Comparative Anatomy and Psychology of the African Negro.
By Hermann Burmeister, Prof. Zool. in University of Halle.
Translated by Julius Friedlander, Dr. Phil. of Berlin, and Robert
Tomes, M.D. of New York. New York, 1853. 8vo.—*From*
J. L. Leconte, M.D.

Educational Documents of Connecticut, for 1853. Report of the Su-
perintendent of Common Schools.—Report of the Commissioner
of the School Fund.—Report of Trustees of State Normal
Schools.—Report of Trustees of State Reform School. Hart-
ford, 1853. 8vo.—*From H. Barnard.*

The Medical Examiner. New Series. Vol. IX. No. 10. Oct. 1853.
Philadelphia. 8vo.—*From the Editors.*

The Plough, the Loom and the Anvil. Vol. VI. No. 4. Oct. 1853.
New York. 8vo.—*From the Editors.*

FOR THE CABINET.

Specimens of Marrow, from the Bones of the Mammoth found on the
shore of the river Lena, in eastern Siberia.—*From Dr. Charles*
Renard, Secretary of the Imperial Society of Naturalists, of
Moscow.

Mr. Trego announced the decease of the Hon. Mahlon
Dickerson, a member of this Society, at his residence in Mor-
ris county, N. J. on the 5th inst. in the 84th year of his age.

Pending nominations for membership were read.

Stated Meeting, October 21.

Present, twenty members.

Judge KANE, Vice-President, in the Chair.

A letter was read from the Royal Bavarian Academy of
Sciences, dated Munich, 14th March, 1853, announcing the
transmission of a donation for the library of the Society.

The following donations were announced:—

FOR THE LIBRARY.

- Bulletin der Königl. Bayerischen Akademie der Wissenschaften. Nos. 25-29. Aug. 2 to Sept. 6, 1852. München. 4to.—*From the Academy.*
- Gelehrte Anzeigen, herausgegeben von Mitgliedern der Königl. Bayerischen Akademie der Wissenschaften. Band XXXV. München. 4to.—*From the same.*
- Ueber den Chemismus der Vegetation:—Festrede zur Vorfeier des Geburtstages Seiner Majestät Maximilian II. Königs von Bayern; gehalten in der öffentlichen Sitzung der Königl. Bayerischen Akademie der Wissenschaften, am 27 Nov. 1852, von Dr. A. Vogel, jr. Universitäts Professor, &c. Munich, 1852. 4to.—*From the same.*
- Annalen der Königlichen Sternwarte bei München: Von Dr. J. Lamont, Conservator der Sternwarte. V. Band. Mit Astronomische Kalender für 1853. München, 1852. 8vo.—*From the same.*
- Report of the Commissioner of Patents for the year 1851.—Part 1. Arts and Manufactures.—Part 2. Agriculture. 2 vols. Washington. 8vo.—*From the U. S. Patent Office.*
- Journal of the Franklin Institute. Third Series. Vol. XXVI. No. 4. Oct. 1853. Philadelphia. 8vo.—*From the Institute.*
- A Memoir of the Life and Labours of the Rev. Adoniram Judson, D.D. By Francis Wayland, President of Brown University. 2 vols. Boston. 8vo.—*From the Author.*
- Voyages de la Commission Scientifique du Nord, en Scandinavie, en Laponie, au Spitzberg et aux Ferøe, pendant les années 1838, 1839 et 1840, sur la Corvette la Recherche. Publiés par ordre du Roi, sous la direction de M. Paul Gaimard, President de la Commission Scientifique du Nord.—*Aurores Boreales*; par M. M. V. Lottin, A. Bravais, C. B. Lilliehöök et P. A. Siljeström.—With a volume of Plates. Paris. 8vo.—*From Prof. John F. Frazer.*
- Etudes sur les Glaciers: par L. Agassiz. With an Atlas of 32 plates. Neuchatel, 1840. 8vo.—*From the same.*
- The American Journal of the Medical Sciences. No. LII. Oct. 1853. Philadelphia. 8vo.—*From Dr. Hays, Editor.*
- The Medical News and Library. Vol. XI. No. 130. Oct. 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*
- Astronomical Journal. Vol. III. No. 16. Oct 11, 1853. Cambridge. 4to.—*From Dr. B. A. Gould, jr. Editor.*

Prof. Frazer announced the death of M. Francis Arágo, which took place at Paris on the first of the present month, in the 67th year of his age. Prof. F. gave a brief account of the scientific labours of M. Arago, and referred to the loss sustained by the death of one so distinguished for his eminent services in promoting discoveries in physical science.

Mr. Trego announced the decease of Professor Simon Greenleaf, a member of this Society.

Dr. J. L. Leconte presented, for publication in the Society's Transactions, a paper entitled "Revision of the Elateridæ of the United States;"—which was referred to a committee, consisting of Prof. Haldeman, Mr. Trego and Dr. Bridges.

The Society next proceeded to the stated business of the meeting—the election of members.

All other business having been concluded, the ballot boxes were opened by the presiding officer, and the following named gentlemen were declared to be elected members of the Society:—

Dr. ALEXANDER FISCHER VON WALDHEIM, of Moscow.

Dr. BASILE SAKHAROFF, of St. Petersburg.

Dr. PETER STRELKOWSKY, of St. Petersburg.

Dr. CHARLES DWORJAK, of St. Petersburg.

FRED. GEO. WILLIAM DE STRUVE, of St. Petersburg.

CHARLES D. ARFWEDSON, of Stockholm.

Stated Meeting, November 4.

Present, fifteen members.

Dr. FRANKLIN BACHE, President, in the Chair.

Letters were read:—

From the Imperial Society of Naturalists, of Moscow, dated 30th Sept. 1852:—from the Secretary of l'Ecole des Mines, dated Paris, 9th June, 1853:—from the Society of Antiquaries, dated Somerset House, London, 25th July, 1853,—severally announcing the transmission of donations for the Library of the Society:—

From Dr. Krauss, Professor in the Cabinet of Natural History at Stuttgart, dated 10th May, 1853, accompanying a copy of his work, "Das Thierreich in Bildern," presented by him to the Society; and also a letter from Dr. J. G. Flügel, of Leipsic, in relation thereto:—

From the Royal Society of Sciences at Göttingen, dated 7th July, 1853, returning thanks for the Proceedings of this Society, No. 47:—

From the Secretary of l'Académie des Sciences, dated Paris, 22d Sept. 1853, acknowledging the receipt of the Society's Transactions, Vol. X. Part 2:—

From the New Jersey Historical Society, dated Nov. 1, 1853,—and from the Connecticut Historical Society, dated Hartford, Nov. 1, 1853, returning acknowledgments for No. 49 of the Proceedings: and—

From Thomas L. Patterson, dated Cumberland, Md. Nov. 1, 1853, acknowledging the receipt of notice of his election as a member of the Society.

The following donations were announced:—

FOR THE LIBRARY.

Abhandlungen der Königlichen Gesellschaft der Wissenschaften zu Göttingen. V. Band. Von den Jahren 1851, 1852. Göttingen. 4to.—*From the Royal Society of Sciences at Göttingen.*

Nachrichten von der Georg-Augusts Universität und der Königl. Gesellschaft der Wissenschaften zu Göttingen. Vom Jahre 1852. Nos. 1–14. Göttingen. 8vo.—*From the same.*

Bulletin de la Société Impériale des Naturalistes de Moscou. Année 1852. No. 2. Moscow. 8vo.—*From the Society.*

Annales des Mines. V. Série. Tome II. 6 livraison de 1852.—Tome III. 1 livraison de 1853.—Table des Matières de la IV. Série décennale, 1842–1851. Paris. 8vo.—*From the Engineers of l'Ecole des Mines.*

Transactions of the Linnean Society of London. Vol. XXI. Part 2. 1853. 4to.—and

Proceedings of the same. Nos. 48–51. List of Officers and Fellows. 1852. 8vo.—*From the Society.*

Archæologia: or Miscellaneous Tracts relating to Antiquity, published by the Society of Antiquaries of London. Vol. XXXV. London, 1853. 4to.—*From the Society of Antiquaries.*

- Proceedings of the Society of Antiquaries of London. Vol. II. Nos. 33-36. With a List of the Officers and Members, April 23, 1853. London. 8vo.—*From the same.*
- Catalogue of Roman Coins, collected by the late Rev. Thomas Kerrich, M.A. F.S.A. &c. and presented by his son, Rev. Richard Edward Kerrich, M.A. F.S.A. to the Society of Antiquaries of London. London, 1852. 8vo.—*From the same.*
- Journal of the Royal Asiatic Society of Great Britain and Ireland. Vol. XV. Part 1. London, 1853. 8vo.—*From the Society.*
- Address at the Anniversary Meeting of the Royal Geographical Society, 23d May, 1853. By Sir R. I. Murchison, M.A. F.R.S. &c. &c. President. London. 8vo.—*From the Society.*
- Astronomical Observations made at the Radcliffe Observatory, Oxford, in the year 1850. By Manuel J. Johnson, M.A. Radcliffe Observer. Vol. XI. Oxford, 1852. 8vo.—*From the Radcliffe Trustees.*
- Catalogue of Stars near the Ecliptic, observed at Markree, during the years 1851, 1852, and whose places are supposed to be hitherto unpublished. Vol. II. Containing 15,298 stars. Dublin, 1853. 8vo.—*Donor unknown.*
- Twentieth Annual Report of the Royal Cornwall Polytechnic Society, 1852. Falmouth. 8vo.—*From the Society.*
- The African Repository. Vol. XXIX. No. 10. October, 1853. Washington. 8vo.—*From the American Colonization Society.*
- Prontuario di vocaboli attenenti a parecchie Arti, ad alcuni Mestieri, a cose domestiche, e altre di uso comune; per saggio di un Vocabolario Metodico della lingua Italiana: di Giacinto Carena, Professore di Filosofia, &c. &c. Parte Prima; Vocabolario Domestico. Parte Seconda; Vocabolario Metodico d'Arti e Mestieri. 2 vols. 8vo. Torino, 1851, 1853.—*From the Author.*
- Atti del Secondo Congresso Generale della Medica Associazione degli Stati Sardi, convocato in Genova l'11 Ottobre, 1852. Torino, 1852. 8vo.—*From Dr. G. B. Massone, Secretary.*
- Das Thierreich in Bildern, nach seinen Familien und Gattungen dargestellt, von Profr. Dr. Ferdinand Krausz, Conservator am Königl. Naturalien Kabinet in Stuttgart. Tafeln 1-50. Textbogen 1-26. 1848-1850. Stuttgart and Eslingen. 4to.—*From the Author.*
- Katalog des Münzkabinetes der Stadtbibliothek zu Leipzig, enthaltend eine ansehnliche und werthvolle Sammlungen von Münzen und Medaillen älterer und neuerer zeit, welche am 15 August,

1853, und folgende Tage, in Leipzig öffentlich verkauft werden. Leipsic, 1853. 8vo.—*From Dr. J. G. Flugel.*

Report of Israel D. Andrews, Consul of the United States for Canada and New Brunswick, to the Secretary of the Treasury, on the Trade and Commerce of the British North American Colonies, and upon the Trade of the Great Lakes and Rivers; also Notices of the Internal Improvements in each State,—of the Gulf of Mexico and Straits of Florida,—and a Paper on the Cotton Crop of the United States. With a volume of Maps. Washington, 1853. 8vo.—*From the Author.*

Correspondence on the proposed Tripartite Convention relative to Cuba. Boston, 1853. 8vo.—*From the Hon. Edward Everett.*

Sur le Gisement et sur l'Exploitation de l'Or en Australie. Par M. Delesse, Ingénieur des Mines. (Annales des Mines, Tome III. 1853). Paris. 8vo.—*From the Author.*

The Astronomical Journal. Vol. III. No. 17. Nov. 1, 1853. Cambridge. 4to.—*From the Editor, Dr. B. A. Gould, jr.*

The Committee to which, at the last meeting, was referred Dr. Leconte's paper on the Elateridæ of the United States, reported in favour of its publication in the Transactions of the Society,—which was ordered accordingly.

A list of the members appointed to prepare obituary notices of deceased members of the Society, who have not yet complied with the object of their appointment, was read.

Judge Kane was, on motion, excused from the duty of preparing a notice of the late Chancellor Kent.

After considerable discussion with regard to the question whether the persons appointed to prepare obituary notices of deceased members of the Society should be properly considered as committees subject to Art. 9, Chap. XI. of the Laws of the Society; it was moved by Prof. Tucker, that members appointed to prepare obituary notices are not considered as committees:—Which motion was agreed to.

A letter was read from Prof. Alexander, of Baltimore, in relation to the preservation of documents and other articles deposited in the corner-stones of buildings.

Prof. A. says that the destruction of articles deposited in corner-stones is very common;—much more common, so far as his know-

ledge of them extends, than their preservation. He recommends that all smaller articles should be enclosed in tubes of glass, with the ends afterwards melted down so as to become hermetically sealed. For larger articles, such as tubes to be sealed would not receive, he has used glass-stoppered bottles, well ground; but avoiding all hot applications, which tend to produce the very result that Dr. Boyé has noticed, namely, a slight extravasation or lifting out of the stopper. After the stopper had been firmly ground in, he applied in the valley between it and the neck of the bottle, a little cold tallow. For still larger articles, books, &c. he has used copper boxes, the edges of which, after enclosing the articles, were hard-soldered down.

Judge Kane communicated to the Society the reception of intelligence that the American Arctic Exploring Expedition, under the command of his son, Dr. Kane, had safely arrived at Upernavik, and that they were preparing to prosecute their explorations to the northward.

The Judge referred to information lately received by Capt. Belcher, of the British service, relative to the result of his explorations in the Arctic regions, showing the discovery of an open sea connected by two straits with Baffin's bay, which, in favourable seasons, may be navigable and afford access from that bay to the Polynya or open sea; but which, except under favourable circumstances, will probably be seldom available to navigators.

Judge Kane narrated some of the operations and adventures of the party under Commodore Belcher, as illustrative of the difficulties and perils to be encountered in the prosecution of Arctic discoveries. He referred to the lamented death of Lieut. Bellot, who fell a victim to his spirit of daring enterprise, having perished in the hazardous attempt to pass over a broad field of ice, from which he was supposed to have fallen into a narrow slip of open water.

Mr. Trego, as Reporter, laid upon the table No. 49 of the Proceedings of the Society, recently published.

Stated Meeting, November 18.

Present, ten members.

JUDGE KANE, Vice-President, in the Chair.

Letters were read:—

From the Etat Major of the Corps of Mining Engineers of Russia, dated St. Petersburg, May, 1853; from the Royal Saxon Society of Sciences, dated Leipsic, 23d May, 1853; from the Royal Bavarian Academy of Sciences, dated Munich, 4th June, 1853; from the Imperial Academy of Sciences at Vienna, dated 29th June and 24th August, 1853; and from the Royal Prussian Academy of Sciences, dated Berlin, 15th Sept. 1853,—respectively accompanying donations for the Library:—

From W. Haidinger, dated Vienna, 11th June, 1853, in relation to a future correspondence of the Imperial Geological Institute of Austria with this Society; and from the same, on behalf of the Direction of the Imperial Geological Institute, dated Vienna, 21st August, 1853, accompanying a donation for the Library of the Society:—

From the Royal Academy of Sciences at Berlin, dated 15th August, 1853, returning thanks for Vol. X. Part 2, of the Society's Transactions:—

From the Royal Danish Society of Sciences, dated Copenhagen, 7th July, 1853, acknowledging the receipt of Nos. 43 to 47 of the Proceedings: and—

From the Historical Society of Pennsylvania, dated Philadelphia, Nov. 15, 1853, and from the Trustees of the State Library of New York, dated Albany, Nov. 4, 1853, communicating their thanks for No. 49 of the Proceedings.

The following donations were announced:—

FOR THE LIBRARY.

Naturwissenschaftliche Abhandlungen; gesammelt und durch subscription herausgegeben von Wilhelm Haidinger. Band I. II. III. IV. Wien, 1847-1851. 4to.—*From the Imperial Geological Institute, Vienna, per W. Haidinger.*

- Berichte über die Mittheilungen von Freunden der Naturwissenschaften in Wien; gesammelt und herausgegeben von W. Haidinger. Band I.–VII. 1846–1851. Wien. 8vo.—*From the same.*
- Abhandlungen der Kaiserlich-Königlichen Geologischen Reichsanstalt. Band I. Wien. 1852. 4to.—*From the same.*
- Jahrbuch der K. K. Geologischen Reichsanstalt. I. Jahrgang, 1850.—II. 1851.—III. 1852.—IV. 1853. No. 1. Wien. 8vo.—*From the same.*
- Abhandlungen der Mathematisch-Physischen Classe der Königlich Sächsischen Gesellschaft der Wissenschaften. Band I. Leipzig, 1852. 4to.—*From the Royal Saxon Society of Sciences, Leipzig.*
- Berichte über die Verhandlungen der Königl. Sächsischen Gesellschaft der Wissenschaften zu Leipzig. Math. Phys. Classe, 1849, 1850, 1851, 1852 and 1853, No. 1. Leipzig. 8vo.—*From the same.*
- Ueber Musikalische Tonbestimmung und Temperatur: von M. W. Drobisch.
- Beiträge zur Kenntniss der Gefässkryptogamen: von W. Hofmeister.
- Entwicklung des Products einer Potenz des Radius Vectors mit dem Sinus oder Co-sinus eines vielfachen der wahren Anomalie in Reihen &c. von P. A. Hanson. (Abhandl. der K. Sächs. Gesell. der Wissen. IV.)—*From the same.*
- Annales de l'Observatoire Physique Central de Russie: Publiées par ordre de Sa Majesté l'Empereur Nicolas I. sous les auspices de S. Exc. M. de Brock, Secrétaire d'Etat, &c. Par A. T. Kupffer, Directeur de l'Observatoire Physique Central. Année 1850, Nos. 1, 2.—Compte Rendu Annuel du Directeur de l'Observatoire Physique Central pour l'Année 1852. St. Petersburg. 4to.—*From the Administration of Mines, of Russia.*
- Abhandlungen der Math. Phys. Classe der Königl. Bayerischen Akademie der Wissenschaften. Band VII. Abth. 1. München, 1853. 4to.—*From the Royal Bavarian Academy of Sciences.*
- Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften zu Wien:—Phil. Hist. Classe. Band IX. 4 Hefte, 1852:—Math. Nat. Classe, Band X. 4 und 5 Hefte, Apr. May, 1853. Wien. 8vo.—*From the Imperial Academy of Sciences, Vienna.*
- Abhandlungen der Königl. Akademie der Wissenschaften zu Berlin, aus dem Jahre, 1852. Berlin. 4to.—*From the Royal Academy of Sciences, Berlin.*
- Monatsbericht der Königl. Preuss. Akademie der Wissenschaften zu

Berlin. Nov. Dec. 1852. Jan. July, 1853. Berlin. 8vo.—
From the same.

Oversigt over det Kgl. Danske Videnskabernes Selskabs Forhandlinger og dets Medlemmers Arbejder i Aaret, 1852. Kiøbenhavn. 8vo.—*From the Royal Danish Society of Sciences.*

Proceedings of the New Jersey Historical Society. Vol. VII. No. 1, 1853. Newark. 8vo.—*From the Society.*

Journal of the Franklin Institute. 3d Series. Vol. XXVI. No. 5. Nov. 1853. Philadelphia. 8vo.—*From the Institute.*

The American Journal of Science and Arts. 2d Series. Vol. XVI. No. 48. Nov. 1853. New Haven. 8vo.—*From Professors Silliman & Dana, Editors.*

A Reply to the Strictures of Lord Mahon and others, on the mode of editing the Writings of Washington. By Jared Sparks, 1852.—Letter to Lord Mahon, being an Answer to his Letter addressed to the Editor of Washington's Writings. By Jared Sparks, 1852.—Remarks on a "Reprint of the Original Letters from Washington to Joseph Read during the American Revolution, referred to in the Pamphlets of Lord Mahon and Mr. Sparks." By Jared Sparks, 1853. Boston. 8vo.—*From the Author.*

The Medical Examiner. New Series. Vol. IX. No. 11. Nov. 1853. Philadelphia. 8vo.—*From Drs. Smith & Biddle, Editors.*

The Medical News and Library. Vol. XI. No. 121. Nov. 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*

The Plough, the Loom and the Anvil. Vol. VI. No. 5. Nov. 1853. New York. 8vo.—*From the Editors.*

On motion of Mr. Trego, the Royal Saxon Society of Sciences of Leipsic, and the Imperial Geological Institute at Vienna, were directed to be placed on the list of correspondents of this Society, and to receive the Transactions.

Mr. Justice laid before the Society a magnified crystalotype image of the moon, by John A. Whipple, of Boston.

This crystalotype is much larger than the one formerly exhibited to the Society; that being only 5 inches, whilst this is $8\frac{1}{2}$ inches in diameter. The first attempt of Mr. Whipple to produce a daguerreotype of the moon was made with a reflecting telescope of 5 feet focus and 7 inch mirror; but the image produced was only five-eighths of

an inch in size, and not satisfactory, as there was no clock-work to regulate the motion of the telescope. The present picture is magnified from a daguerreotype of three inches, taken through the object-glass of the large Cambridge Refractor, by displacing the eye-piece and placing the plate in the focus of the object-glass.

In consequence of the clock-movement of the telescope, not exactly coinciding with the motion of the earth, there is an indistinctness of the lines, which, through the telescope, would be perfectly sharp. This indistinctness, though slight, Mr. Whipple hopes to remedy by an adjustment applied to the clock-motion, invented by Professor Bond, which will enable him, he supposes, to produce as perfect a daguerreotype, of ten or more inches in diameter, as he now has of three inches. From such a plate a crystalotype may be magnified to four feet in diameter.

The enlarged picture, now before the Society, exhibits the radiations extending through Mare Serenitatis very beautifully, whilst those issuing from around Tycho are also very distinct. In the picture formerly exhibited these were but faintly delineated.

The proceedings of the Board of Officers and Council of the Society, at their late meeting, were read.

A proposed amendment to the Laws of the Society, recommended by the Officers and Council,—to wit: Add to Chapter VII. of the Laws, as Article 7, the following: “The ex-Presidents of the Society shall be members of the Board of Officers and Council:”—which was read and laid over for consideration at next meeting.

The Treasurer read the following letter, addressed to him by the President of the Society:

November 18, 1853.

Dear Sir,—I send you, enclosed, a check for five hundred dollars, which I beg you to present, in my name, to the Society, as a contribution towards the expense of preparing and printing a correct catalogue of the library, and of enlarging the accommodations for the books.

Very respectfully and truly yours,

FRANKLIN BACHE.

To CHARLES B. TREGO, Esq
Treas. Am. Phil. Society.

Whereupon, on motion of Dr. Elwyn, it was

Resolved, That the thanks of the Society be presented to its President, for his very generous donation towards a better arrangement and accommodation of the Library.

Stated Meeting, December 2.

Present, twenty members.

Dr. DUNGLISON, Vice-President, in the Chair.

A letter was read from the Secretary of l'Ecole des Mines, dated Paris, 13th July, 1853, accompanying a donation to the Society.

The following donations were announced:—

FOR THE LIBRARY.

Philosophical Transactions of the Royal Society of London, for the year 1852. Vol. 143. Parts 1, 2. London. 4to.—*From the Society.*

Astronomical and Magnetical and Meteorological Observations, made at the Royal Observatory, Greenwich, in the year 1851, under the direction of George Biddell Airy, Esq. M.A. Astronomer Royal. London, 1853. 4to.—*From the same.*

Observations made at the Magnetical and Meteorological Observatory at Toronto in Canada. Printed by order of her Majesty's Government, under the superintendence of Col. Edward Sabine, of the Royal Artillery. Vol. II. 1843, 1844, 1845: with Abstracts of the Observations to 1848, and, in some cases, to 1852, inclusive. London, 1853. 4to.—*From the British Government.*

Memoirs of the Royal Astronomical Society. Vol. XXI. Parts 1 and 2. London, 1852. 4to.—*From the Society.*

Monthly Notices of the Royal Astronomical Society, containing Papers and Abstracts of Papers, and Reports of Proceedings of the Society, from Nov. 1851, to June, 1852. Vol. XII. London. 8vo.—*From the same.*

On the Impregnation of the Ovum in the Amphibia. (Second Series revised). And on the Direct Agency of the Spermatozoon. By George Newport, F.R.S. F.L.S. &c. (Phil. Trans. Lond. 1853). 4to.—*From the Author.*

Annual Report of the Superintendent of the Coast Survey, showing the progress of that work during the year ending Nov. 1851. With a volume of Maps. Washington. 8vo.—*From Prof. A. D. Bache, Supt. U. S. Coast Survey.*

Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. VI. No. 11. Sept. Oct. 1853. Philadelphia. 8vo.—*From the Academy.*

Annales des Mines. V. Série. Tome III. 2 livraison de 1853. Paris. 8vo.—*From the Engineers of l'Ecole des Mines.*

Judge Kane referred to a former communication made by him in relation to the progress of discovery in the Arctic regions,—and exhibited a map of that portion of the globe, on which he traced the courses of various expeditions sent thither for exploration. He showed the track of the American expedition under Lieut. Dehaven, to which Dr. Kane was attached,—and noticed the indications observed by them, at several points, of the party under Sir John Franklin having been there. He adverted to the discovery of “Grinnell land,” by the American expedition, on which they noticed a mountain, estimated at a height of 1500 feet. Eight months after this, a party of British explorers claimed to have discovered the same land, which they named *Albert land*. He noticed a recent attempt to deprive the American party of the credit of this discovery, by alleging a prior discovery, in an official communication to the British Government, which he showed to be a misconception;—proving, from the account of Captain Belcher’s recent explorations, that the discovery is incontestably due to the American expedition. The Judge adduced arguments in favour of the existence of an open polar sea, and showed the probability of Sir John Franklin’s party having passed into that sea, whatever may have been their subsequent fate. He referred to the probable course of operations of the American party now in those regions, since they were heard from at Upernavik.

Mr. Lea said that when recently in England he had conversed with the Rev. Dr. Scoresby, and other gentlemen well acquainted with the progress of Arctic exploration, and is led to doubt the existence of an open polar sea. Dr. Scoresby, he says, is of the opinion that future explorations must be made by land, if pushed beyond the limits of present knowledge. Mr. Lea mentioned several circumstances which led him to suppose that an eternal barrier of ice surrounds the north pole, and referred to the currents in those seas, as mentioned by navigators.

Dr. Franklin Bache, the President, gave notice that at the next meeting he should deliver an address on the affairs of the Society.

Mr. Lea read an extract of a letter from Dr. R. W. Gibbes, of Columbia, S. C. in relation to an original letter from Thomas Penn to Sir William Johnston, dated February 18, 1768, which letter was presented to the Society.

The Treasurer presented his Annual Report, which was read and referred to the Committee of Finance.

The Committee of Publication presented their Annual Report, which was read.

The Society proceeded to vote upon the proposed amendment to its Laws, read at last meeting, to wit: Add to Chap. VII. of the Laws, as Article 7, the following: "The ex-Presidents of the Society shall be members of the Board of Officers and Council:" which was adopted by a vote of more than three-fourths of the qualified members present.

Stated Meeting, December 16.

Present, twenty-eight members.

Dr. FRANKLIN BACHE, President, in the Chair.

Letters were read:—

From the Horticultural Society, London, dated Regent street, 18th October, 1853; from the Linnean Society, dated Soho square, London, Nov. 8, 1853; from the Society of Antiquaries, dated Somerset House, London, 18th Nov. 1853; from the Royal Asiatic Society, dated London, 19th Nov. 1853,—severally acknowledging the receipt of the Transactions of this Society, Vol. X. Part 2, and of No. 48 of the Proceedings:—

From the Corporation of Harvard College, dated Cambridge, Nov. 2, 1853, acknowledging the receipt of No. 49 of the Proceedings:—

From his Excellency John F. Crampton, her Britannic Majesty's Minister at Washington, dated December 14, 1853, announcing a donation, on the part of the British Government, for the Library of the Society: and—

From the Hon. John K. Kane, accompanying a donation from his son Dr. E. K. Kane, of his Narrative of the Grinnell Expedition in search of Sir John Franklin.

The following donations were announced:—

FOR THE LIBRARY.

Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen. Deel XXIII. Batavia, 1850. 4to.—*From the Batavian Society of Arts and Sciences, Java.*

The African Repository. Vol. XXIX. No. 11. Nov. 1853. Washington. 8vo.—*From the American Colonization Society.*

Journal of the Franklin Institute. Third Series. Vol. XXVI. No. 6. Dec. 1853. Philadelphia. 8vo.—*From the Institute.*

The U. S. Grinnell Expedition in search of Sir John Franklin: A Personal Narrative. By Elisha Kent Kane, M.D. U. S. N. New York, 1853. 8vo.—*From the Author.*

Letters on International Copyright. By H. C. Carey. Philadelphia, 1853. 8vo.—*From the Author.*

The Astronomical Journal. Vol. III. No. 18. Dec. 8, 1853. Cambridge. 4to.—*From Dr. B. A. Gould, jr. Editor.*

The Medical Examiner. New Series. Vol. IX. No. 12. Dec. 1853. Philadelphia. 8vo.—*From Drs. Smith & Biddle, Editors.*

The Medical News and Library. Vol. XI. No. 132. Dec. 1853. Philadelphia. 8vo.—*From Blanchard & Lea.*

The Plough, the Loom and the Anvil. Vol. VI. No. 6. Dec. 1853. New York. 8vo.—*From the Editors.*

The Committee of Finance reported that they had examined the accounts of the Treasurer, and found them correct. The following Appropriations, recommended by the Committee for the current fiscal year, were ordered to be made:

For Publications, including Proceedings,	\$400
For Journals, - - - - -	50
For Hall, - - - - -	50
For Binding, - - - - -	50
For General Account, - - - - -	1100

A discourse was then delivered by Dr. Franklin Bache, the President, on the affairs of the Society.

The discourse commenced with remarks upon the importance of association in promoting the progress of literary and scientific knowledge. In monarchical countries, the spirit of scientific association is sustained by the patronage of government, and frequently by pecuniary aid. In our country this spirit is left to its own resources, generally without any extrinsic support. This condition of things, and the comparative youth of our country, may be assigned as reasons why we have not rivalled European States in the higher and more abstruse branches of science; but have given to our labours rather a practical and useful tendency, as shown by our progress in agriculture and the mechanic arts.

The President then proceeded to show that scientific associations, especially in free States, should be organized on liberal principles, and that the requiring of too high a grade of attainment in candidates for membership, and rules or usages too exclusive, tend to defeat the main objects of association, the increase and diffusion of knowledge. He alluded to the early condition of this Society, and to the advantages which might result from an increased number of members, diffused more generally throughout the various States of the Union.

The proceedings of the Society, and the operations of its laws, for the last half century, were next reviewed, and some suggestions made in reference to the mode of electing members. This was followed by a recapitulation of the obituary notices of deceased members, directed to be prepared, and of those actually prepared and read to the Society,—with suggestions concerning the printing of the latter.

He recommended the adoption of measures for securing increased space and better arrangement of the library and cabinet of the Society, and suggested an alteration of the Hall for that purpose.

The Magellanic premium, which the Society has the power of awarding for useful discoveries and inventions, was next adverted to, and a wish expressed that an additional publicity should be given to the conditions of these premiums.

The continuation of the binding in volumes of the records and documents belonging to the Society, was urged by the President, who closed his discourse by dwelling at some length on its financial affairs.

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