Stated Meeting, June 21.

Present, twenty-four members.

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

Letters were announced and read:—

1. From M. Quetelet, President of the Commission Centrale de Statistique, of Belgium, dated Bruxelles, Jan. 31, 1844, on transmitting the first volume of the Bulletin of the Commission, and stating that it would be agreeable to the Commission to receive in exchange any American publications connected with statistics, and the sciences relating thereto:—

2. From the Imperial Society of Naturalists of Moscow, dated Moscow, Sept. 28, 1843, accompanying a donation of Transactions of that Society:—

3. From the Massachusetts Historical Society, dated Boston, May 31, 1844, acknowledging the receipt of Vol. IX. Part 1, of the new series of the Transactions of the Society:—

4. From the British Association for the Advancement of Science, dated London, March 1, 1844, inviting the members of the Society to the next meeting of the Association, to be held in the City of New York, on the 26th of Sept. 1844:—

5. From Prince Maximilian de Wied, (being an extract from a letter from him to Dr. Morton,) dated Nieu-Wied on the Rhine, and accompanying a donation of his Travels into the interior of North America, from 1832 to 1834:—

6. From Professor Rümker, dated Hamburg, April 23, 1844, containing the elliptic elements, ephemeris, and a comparison with the observations of the Comet discovered by Mr. Bremiker, calculated by Mr. Götze:—

Perihelion passage, 1840, Jan. 31	8d.70143 m. t. Berlin.			
*Longitude of the ascending node,	248°	55′	57″.15	
*Inclination of the plane of the orbit,	57	57	51.59	
Distance of perihelion from node,	133°	36′	8″.33	
Angle of eccentricity $= \varphi$ of Gauss,	76	5	21.52,	where $\sin \varphi = e$
Log. of least distance,			0.1705436	
Log. of semi-axis major,			1.7032559	
Log. δ = Log. $(1 - e)$,			8.4672877	

* Referred to the ecliptic and the mean equinox of 1841, Jan. 0.

From these elements, the following co-ordinates of the comet have been computed with reference to the equator, the mean equinox of 1841, Jan. 0, and Bessel's mean obliquity of the ecliptic, 23°27′36″.06.

$$x = r\ [9.7865707]\ \sin\ (v + 97^\circ\ 36'\ 53''.34)$$
$$y = r\ [9.9989828]\ \sin\ (v + 12\ 41\ 53.70)$$
$$z = r\ [9.8998221]\ \sin\ (v + 105\ 42\ 19.84)$$

And for the reduction of these co-ordinates to the actual apparent equator, I have used the following differential formulæ.

$$d\,x = r\ [9.97884]\ \sin\ (v + 212^\circ\ 3'\ 22)\ d\,\Omega$$
$$d\,y = x\ \cos\,\varepsilon\ d\,\Omega - z\ d\,\varepsilon$$
$$d\,z = x\ \sin\,\varepsilon\ d\,\Omega + y\ d\,\varepsilon$$

where $d\,\Omega$ is the reduction of the mean to the apparent equinox, and $d\,\varepsilon$ is the difference of the apparent from the mean obliquity of the ecliptic.

With these formulæ, and with the assistance of the excellent tables given by Bessel in the 12th volume of the Monatliche Correspondenz, the comet's co-ordinates have been carefully computed with reference to the apparent equator; and by the aid of the sun's co-ordinates in the Berlin Jahrbuch for 1841, the corresponding geocentric places of the comet have been obtained free from aberration. Whence the following ephemeris for mean noon, Berlin, has been prepared, with the hundredths of a second, as correct as they can be obtained from the solar tables with seven placed logarithms.

Date.	App. R. A.	App. Dec.	Log. Δ.	Log. r.	s 493.15 Δ.	Log. 8s.5776 Δ
1840.						
Oct. 27	279° 47′ 31″.82	+ 60° 55′ 18″.51	0.0449701	0.1764649	9′ 6″.95	0.88840
29	282 9 34.48	+ 60 56 16.90	0.0375830	0.1752183	8 57.72	0.89579
31	284 41 41.68	+ 60 55 45.44	0.0301131	0.1741138	8 48.55	0.90326
Nov. 2	287 24 4.98	+ 60 53 18.02	0.0225905	0.1731544	8 39.48	0.91078
4	290 16 47.55	+ 60 48 25.18	0.0150474	0.1723422	8 30.54	0.91832
6	293 19 43.52	+ 60 40 34.18	0.0075221	0.1716791	8 21.77	0.92585
8	296 32 34.10	+ 60 29 9.02	0.0000600	0.1711668	8 13.22	0.93331
10	299 54 47.92	+ 60 13 31.25	9.9927071	0.1708065	8 4.94	0.94066
12	303 25 37.21	+ 59 53 2.02	9.9855225	0.1705992	7 56.98	0.94785
14	307 3 57.96	+ 59 27 1.93	9.9785668	0.1705453	7 49.41	0.95480
16	310 48 30.68	+ 58 54 53.34	9.9719081	0.1706450	7 42.26	0.96146
18	314 37 41.73	+ 58 16 2.76	9.9656188	0.1708980	7 35.62	0.96775
20	318 29 47.31	+ 57 30 2 15	9.9597773	0.1713039	7 29.53	0.97359
22	322 22 55.69	+ 56 36 31.24	9.9544637	0.1718614	7 24.06	0.97891
24	326 15 16.29	+ 55 35 18.56	9.9497600	0.1725692	7 19.28	0.98361
26	330 5 1.99	+ 54 26 23 45	9.9457471	0.1734256	7 15.24	0.98762
28	333 50 34.32	+ 53 9 36.53	9.9425040	0.1744286	7 12.00	0.99087
30	337 30 28.94	+ 51 46 18.98	9.9401018	0.1755756	7 9.62	0.99327
Dec. 2	341 3 36.74	+ 50 16 3.25	9.9386055	0.1768643	7 8.14	0.99476
4	344 29 5.09	+ 48 39 50.42	9.9380674	0.1782913	7 7.61	0.99530
6	347 46 18 33	+ 46 58 30.12	9.9385282	0.1798536	7 8 07	0.99484
8	350 54 55.01	+ 45 12 57.82	9.9400130	0.1815476	7 9.53	0.99336
10	353 54 47.96	+ 43 24 12.47	9.9425306	0.1833697	7 12.03	0.99084
12	356 45 59.79	+ 41 33 15.11	9.9460748	0.1853157	7 15.57	0.98730
14	359 28 43.24	+ 39 41 6.48	9.9506208	0.1873819	7 20.15	0.98275
16	2 3 16.19	+ 37 48 44.87	9.9561314	0.1895639	7 25.77	0.97724
18	4 30 1.58	+ 35 57 4.22	9.9625541	0.1918572	7 32.41	0.97082
20	6 49 24 57	+ 34 6 54.00	9.9698256	0.1942575	7 40.06	0.96354
22	9 1 53.53	+ 32 18 56.78	9.9778743	0.1967604	7 48.65	0.95550
24	11 7 54.63	+ 30 33 49.17	9.9866217	0.1993612	7 58.19	0.94675
26	13 7 55.01	+ 28 52 0.24	9.9959868	0.2020552	8 8.62	0.93738
28	15 2 21.39	+ 27 13 52.66	0.0058882	0.2048381	8 19.88	0.92748
30	16 51 38.40	+ 25 39 42.74	0.0162455	0.2077051	8 31.95	0.91712
1841.						
Jan. 1	18 36 9.41	+ 24 9 41.37	0.0269835	0.2106518	8 44.76	0.90639
3	20 16 16.48	+ 22 43 54.30	0.0380293	0.2136734	8 58.28	0.89534
5	21 52 20.38	+ 21 22 23.44	0.0493184	0.2167657	9 12.46	0.88405

The following comparison of the elements with the observations published in Volume 18th of Schumacher's Ast. Nachr., cleared of parallax and aberration, leaves the annexed differences. The times are not yet freed from aberration, and are those of the respective meridians of the places of observation.

BERLIN.

Date.	Berlin Mean Time.	Observed R. A.	$\Delta\,\alpha\cos\delta$ Reck.—Obs.	Observed Dec.	$\Delta\,\delta$ Reck.—Obs.
1840.	h	° ′ ″	″	° ′ ″	″
Oct. 27	10 17′ 46.00	280 16′ 43.13	+ 0.20	+ 60 55′ 36.42	+ 0.74
28	8 25 11.00	281 21 46.77	+ 4.31	+ 60 56 5.47	+ 1.01
29	8 25 41.00	282 35 30.63	— 12.40	+ 60 56 18.17	+ 0.40
30	6 54 24.00	283 45 44.86	+ 3.83	+ 60 56 12.18	— 3.53
30	8 10 40.00	283 49 52.65	+ 2.09	+ 60 56 9.32	— 1.89
31	8 8 25.00	285 8 9.55	— 3.92	+ 60 55 32.77	— 3.06
Nov. 1	7 49 8.00	286 27 45.88	— 2.09	+ 60 54 28.87	— 5.92
2	9 22 31.00	287 56 35.16	— 2.64	+ 60 52 39.32	— 5.34
3	7 34 59.00	289 16 8.00	— 2.64	+ 60 50 34.83	— 10.20
9	12 26 35.00	299 4 39.63	+ 1.52	+ 60 17 43.88	+ 1.22
11	7 27 8.00	302 11 17.98	+ 4.30	+ 60 0 44.66	+ 0.29
12	8 34 55.00	304 3 29.30	+ 1.71	+ 59 48 53.58	— 0.72
1841.					
Jan. 10	8 6 12.00	25 51 11.49	— 15.19	+ 18 5 58.11	— 19.12
20	8 2 3.00	32 24 17.84	+ 5.38	+ 13 11 4.55	— 25.21
Feb. 7	6 51 7.00	42 17 36.05	— 4.45	+ 7 26 28.74	— 26.03
16	7 54 59.00	46 42 26.02	+ 0.45	+ 5 33 17.95	— 0.45

HAMBURG.

1840.					
Oct. 31	8 22 0.08	285 10 0.55	— 13.96	+ 60 55 29.78	— 1.06
Nov. 1	6 52 26.82	286 25 54.27	— 19.23	+ 60 54 31.32	— 5.88
2	10 28 10.86	288 1 21.31	— 5.38	+ 60 52 11.31	+ 16.09
3	5 50 5.24	289 10 37.67	— 2.93	+ 60 51 11.03	— 36.45
3	7 15 19.82	289 15 51.50	— 5.14	+ 60 50 33.82	— 8.54
4	13 20 2.14	291 7 14.14	— 9.15	+ 60 46 37.56	— 4.71
11	6 55 59.20	302 10 10.74	— 0.64	+ 60 0 48.25	+ 4.18
12	6 27 11.41	303 55 20.93	— 10.70	+ 59 50 3.21	— 13.66
13	8 5 4.80	305 51 43.64	— 14.34	+ 59 36 5.87	+ 9.14
14	9 29 42.97	307 48 45.84	— 11.17	+ 59 21 20.41	— 13.37
15	6 41 14.84	309 27 37.80	— 8.02	+ 59 7 7.08	+ 2.43
18	6 34 54.83	315 10 14.58	— 11.42	+ 58 9 57.82	+ 6.82
19	6 48 36.13	317 7 21.67	— 13.15	+ 57 47 16.43	— 0.84
20	6 25 23.65	319 1 37.34	— 4.95	+ 57 23 14.51	— 2.17
24	6 44 42.53	326 48 31.37	— 8.74	+ 55 26 0.42	— 4.02
25	6 25 2.60	328 41 51.72	— 2.50	+ 54 52 15.58	+ 6.38
26	7 9 17.20	330 39 43.87	— 9.35	+ 54 15 27.53	— 9.37
29	7 33 59.12	336 16 38.39	— 8.89	+ 52 15 47.33	— 15.43
Dec. 2	9 11 4.79	341 44 19.20	— 11.79	+ 49 58 5.26	— 13.31
3	7 7 2.82	343 18 12.58	— 0.56	+ 49 13 42.97	+ 22.37
3	8 49 21.41	343 25 39.78	— 8.43	+ 49 10 54.29	— 16.13
13	7 42 40.03	358 34 54.95	— 5.65	+ 40 19 5.74	— 6.58
14	7 0 57.17	359 52 21.52	— 9.40	+ 39 24 20.63	+ 5.18
16	8 50 43.24	2 31 35.41	— 17.97	+ 37 27 59.42	— 8.61
18	7 34 23.16	4 52 46.96	+ 0.57	+ 35 39 34.84	— 14.78
19	8 47 55.90	6 6 29.18	— 7.97	+ 34 41 30.08	— 9.03
21	8 2 41.39	8 18 55.37	— 2.94	+ 32 54 45.79	— 26.47
23	7 58 57.91	10 26 55.93	— 6.77	+ 31 8 40.11	— 19.49
25	7 42 23.08	12 28 3.07	+ 0.34	+ 29 26 11.80	— 13.55
26	8 8 10.01	13 27 53.82	+ 1.08	+ 28 34 54.95	— 1.16
27	9 31 19.89	14 28 58.34	— 19.05	+ 27 43 46.35	+ 6.77

7. From the Corporation of the University of Cambridge, Mass. dated Cambridge, May 2, 1844, acknowledging the receipt of Proceedings and Transactions of the Society:—

8. From Mr. D. C. Freman, dated Washington, N. C., June 3, 1844, suggesting the publication of the whole of the obituary notice of Judge Gaston, read before the Society by Mr. Dillingham; and on motion of Mr. Kane permission was granted to the author to publish the same should he desire it.

The following donations were announced:—

FOR THE LIBRARY.

Monthly Notices of the Royal Astronomical Society of London. Vol. VI. Nos. 3, 4, 5. 8vo.—*From the Society.*

Nouveaux Mémoires de la Société Impériale des Naturalistes de Moscou. Tome VII. Formant le tome XIII. de la Collection. Moscow, 1842. 4to.—*From the Society.*

Royaume de Belgique. Ministère de l'Intérieur. Bulletin de la Commission Centrale de Statistique. Tome I. Bruxelles, 1843. 4to.—*From the Central Commission.*

Statistique de la Belgique. Population, Mouvement de l'État Civil pendant l'année 1841. Publié par le Ministre de l'Intérieur. Bruxelles, 1843. Folio.—*From the same.*

Astronomical Observations made at the Radcliffe Observatory, Oxford, in the year 1841. By Manuel J. Johnson, Radcliffe Observer. Published by order of the Radcliffe Trustees. Oxford, 1843. Vol. II. 8vo.—*From the Radcliffe Trustees.*

Journal of the Franklin Institute of the State of Pennsylvania. Third Series. Vol. VII. No. 6. June, 1844. 8vo.—*From Dr. Patterson.*

Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. I. December, 1841. No. 9. Vol. II. March and April, 1844. No. 2.—*From the Academy.*

The African Repository and Colonial Journal. Vol. XX. Nos. 5 and 6. May and June, 1844. 8vo.—*From the American Colonization Society.*

The Annals and Magazine of Natural History, including Zoology, Botany and Geology. Vol. XII. Nos. 77, 78, 79, 80. 8vo.—*From Sir Wm. Jardine, Bart.*

Magazine of Zoology and Botany. Vol. II. No. 10. October, 1837. 8vo.—*From the same.*

The Electrical Magazine. Conducted by Mr. Charles V. Walker. Vol. I. No. 4. April, 1844. 8vo.—*From the Editor.*

Reise in das Innere Nord-America in den Jahren, 1832 bis 1834. Von Maximilian, Prinz zu Wied. Erster Band. Coblenz, 1839. 4to. Zweiter Band. Coblenz, 1841. 4to. With an Atlas of Plates in Folio.—*From Maximilian, Prince of Wied.*

History of the United States, from the Discovery of the American Continent. By George Bancroft. Vol. III. Tenth Edition. Boston, 1844. 8vo.—*From the Author.*

Magnetical Investigations. By the Rev. Wm. Scoresby, D.D., F.R.S., etc. etc. Part I. London, 1839. 8vo. Part II. London, 1843. 8vo.—*From the Author.*

Essays on Magnetism. By the Rev. Wm. Scoresby. Edinburgh, 1832–3. 8vo.—*From the same.*

Remarks on the Probability of Reaching the North Pole. By the Rev. Wm. Scoresby. From the Edinburgh New Philosophical Journal, for July, 1828. 8vo.—*From the same.*

On some Circumstances connected with the Original Suggestion of the Modern Arctic Expeditions. Communicated by the Rev. Wm. Scoresby, D.D., in a Letter to the Editor of the Edinburgh New Philosophical Journal. 8vo.—*From the same.*

Notizie Elettriche. By Ferdinando Elice. Genoa, 10th March, 1844. 12mo.—*From the Author.*

Report of Capt. George W. Hughes (Topographical Engineers) relative to the Working of Copper Ore. Senate Document, 28th Congress, No. 291.—*From Col. J. J. Abert.*

Annual Report of Commissioner of Patents. 28th Congress, First Session, No. 177. House of Representatives.—*From the Hon. J. R. Ingersoll.*

The Medical News and Library. Vol. II. June, 1844. No. 18. 8vo.—*From Messrs. Lea & Blanchard.*

A Lecture on the Study of Botany. Read before the Ladies' Botanical Society, at Wilmington, Delaware, March 2, 1844. By Wm. Darlington, M.D. 8vo.—*From the Author.*

Reliquiæ Baldwinianæ: Selections from the Correspondence of the late William Baldwin, M.D. With Occasional Notes, and a Short Biographical Memoir. Compiled by Wm. Darlington, M.D. Philadelphia, 1843. 12mo.—*From W. H. Dillingham, Esq.*

Ueber die Sterblichkeit der Weiszen und der Schwarzen im Strafhause von Philadelphia.—*From B. H. Coates, M.D.*

A Hebrew Lexicon, transcribed from Dr. John Taylor's Concordance of the Holy Scriptures. 4to. MS.—*From Mrs. Mary Taylor.*

ADDITION TO THE LIBRARY BY PURCHASE.

Astronomische Nachrichten. Nos. 497 to 502, inclusive. 4to.

Professor Hart stated, for the information of the Society, that the Transit Instrument at the Observatory of the High School is now in complete operation, and that observations are made with it nightly.

Dr. Bridges made some observations on the affinity between certain metals, and especially on the belief that iron and mercury cannot be amalgamated. He exhibited a specimen in which such amalgamation existed. He first observed this accidentally. The mercury in the specimens adhered very firmly to the iron.

Mr. Lukens referred to cases in which the amalgamation had been effected when an iron plate was scraped under mercury; in other words, when the contact of air was prevented.

Dr. Patterson, on the part of the Committee of Finance, made a report, recommending three hundred dollars to be appropriated for the publication of the Society's Transactions, which, on motion, was agreed to.